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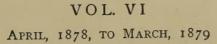
GREAT BRITAIN AND IRELAND

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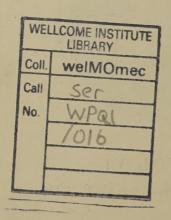
Midwisery und the Diseases of Momen und Children

EDITED BY A. L. GALABIN, M.A., M.D.





J. & A. CHURCHILL, NEW BURLINGTON STREET



LIST OF ORIGINAL COMMUNICATIONS.

	PAGE
Puerperal Convulsions. By William Berry, M.R.C.S. Eng., &c	1
Herman, M.R.C.P. Antiseptic Precautions in Midwifery Practice. By F. W. Newcombe, M.D. Case of Abortion at Three and a half Months, in which the Placenta was probably	17
Retained. By David Young, M.D	24
M.D	65 73
On the Value of Rapid Dilatation of the Urethra and Neck of the Bladder as an	, 513
Two Cases of Inversion of the Uterus following Delivery. By J. Braithwaite, M.D. On the Proper Management of Tedious Labours, and Particularly on the Use of	84
the Forceps in these. By G. Hamilton, M.D. Rheumatoid Inflammation of the Joints in Women. By N. Davies-Colley, M.A.,	137
F.R.C.S., &c. Cases Illustrating the Viability of Extremely Small Premature Children, with brief	158
reference to several Analogous Examples. By C. J. Cullingworth, M.R.C.S. A Case of Serous Perimetritis. By Stacey S. Burn, M.R.C.S.	163
Influence of Posture on Women. By J. H. Aveling, M.D	201
Notes on a Case of Hydramnios. By G. de G. Griffith, L.R.C.P	221
Fœtal Mortality in Obstetric Practice. By A. L. Galabin, M.A., M.D	
	229
On Digital Dilatation of the Os in Labour. By W. Stephenson, M.D Case of Ovarian Tumour complicated by Cardiac and Renal Disease—Ovariotomy—Death. By J. K. Thornton, M.B.; with Report of Post-mortem, by A.	2 73
Doran, F.R.C.S. Post-partum Hæmorrhage, with Notes of Three Cases successfully Treated by	281
Compression of the Abdominal Aorta. By M. M. Bradley, M.D	287
Note as to the Mortality in Childbed Statistics. By G. Hamilton, M.D	303
The Method of Conjoint Examination in Gynæcological Diagnosis. By A. Hegar,	5 5
M.D	337
Cervix. By A. L. Galabin, M.A., M.D.	349
On the Mechanism of Labour. By W. Stephenson, M.D	401
On the Amputation of the Vaginal Portion of the Uterus. By L. Henry, M.D A Contribution to our Facts on Puerperal Septicæmia. By J. M. Dolan,	411
L.R.C.P.E. Case illustrating some points in the Management of Tedious Labours. By G. Hamilton, M.D. 474	465
On Digital Dilatation of the Os in Labour. By G. W. Trenholme, M.D.	, 559
Notes on the Common Forms of Diarrheea in Children. By A. E. Sansom, M.D.	479
Note on the Treatment of Chronic Inversion of the Uterus. By L. Tait, F.R.C.S.	537
Three Cases of very large Polypi of Uterus, in which the usual Modes of Diagnosis were unattainable, Removed successfully. By J. Braxton Hicks, M.D.	555
The Spaying of Women: a Note Historical and Philological. By J. H. Aveling, M.D.	617
Case of Occlusion of Os and Cervix Uteri accidentally produced. By A. Wiglesworth, L.R.C.P.	622
On an Abdominal Shield for improving the Obstetric Binder. By F. Vacher, L.R.C.P	628
Note on Intra-Uterine Medication and Sterility. By W. S. Playfair, M.D. On a Shear produced in the Foetal Head before its Entrance into the Brim of the	693
Pelvis. By J. M. Duncan, M.D	701
Post-partum Hæmorrhage, and Modes of Treatment not generally known for Controlling and Arresting it. By G. de G. Griffith, L.R.C.P On the Present State of Knowledge as to the Inheritance of Syphilis. By Prof. A.	704
Weil Contribution to the Subject of Intra-Uterine Medication. By S. Sloan, M.D.	753 770
On Intra-Uterine Medication and Sterility. By A. W. Edis	775
Intra-Uterine Medication. By A. Wiglesworth, L.R.C.P	777 780

ABSTRACTS OF SOCIETIES' PROCEEDINGS.

* * *	
PAGE	
Specimen of a Unicorn Uterus 29	and Bladder of a Male Child Born with Im-
Traction by the Lower Jaw in Head-last	perforate Anus
Cases 30	Structure of a Channelled Polypus of the
A Case of Protracted Labour in which the Use	Cervix 321, 5
of the Forceps was typically indicated 35	The Condition of the Hymen and its Remains
The Asymmetry of the Fætal Head 36	by Cohabitation, Child-bearing, and Lying-
President's Address to Edinburgh Obstetrical	in
Society	The late Dr. Churchill
Specimens of Professor Simon's Urethral	President's Address at the Opening of the
Dilators	Section of Obstetric Medicine at the
Case of Sudden Prolapse of the Gravid Uterus 54	Section of Obstetric Medicine at the Annual Meeting of the British Medical
Specimen of Cancerous Polypi removed during Pregnancy	Association
during Pregnancy 91	Death-rates in Childbed
Specimen of Cyclic Degeneration of the	On the Essential Pathology of Puerperal
Fætal Kidneys	Fel
Foetal Kidneys	Eclampsia 375, 4
Specimen of Pyæmic Arthritis as the Result	Milk Fever
of Congenital Syphilis 93	The British Medical Association, Annual
Specimen of Spontaneous Rupture of the	Meeting 4
Uterus	Delivery by Forceps
Two Cases of Repair of the Female Bladder	The treatment of Pregnancy complicated with
and Urethra 95	Cancerous Disease of the Genital Canal . 4
Cases of Rupture of the Uterus 98, 99	Placenta Prævia, or Unavoidable Hæmor-
A Case of Puerperal Convulsions 100	
Notes of Consent Convensions 100	Curettes and Curetting
Notes of a Successful Operation on a very	Curcues and Curcuing
large Vesico-vaginal Fistula, occurring in a	Note of a Case of Retroversion of the Gravid
Child eight years of age 104	Uterus 5
Case of Pregnancy, complicated with large	Specimen of Tumour of the Labium 5
Case of Pregnancy, complicated with large Uterine Fibroid—Delivery at full time—	On the Hypodermic Injection of Chloral in
Hæmorrhage-Recovery	Puerperal Eclampsia 5
President's Address to Dublin Obstetrical	Specimen of Uterus with Rupture of the
Society	Right Fallopian Tube 5
The Influence of the Uterus in Eye Disease. 118	A Deculator for Paquelin's Cautary
On the Treatment of Doct and II Eye Disease, 116	A Regulator for Paquelin's Cautery 5 Specimen of Double Cephalhæmatoma 5
On the Treatment of Post-partum Hæmor-	Specimen of Double Cephamæmatoma 5
rhage by the Injection of Hot Water into	Specimen of Uterus with one Ovary as a
the Uterus	large Unilocular Cystic Tumour 5
Specimens of the Uterine Mucous Membrane	Rupture of the Vagina during Labour 5
in Menstruation	Some Clinical Remarks on a Certain Class of
A Case of Cæsarian Section	cases of Anteflexion of the Uterus with
Case of Pregnancy, complicated by Malig-	certain correlated Conditions 574, 6
nant Growths in the Vagina and Rectum . 174	Specimen of a Poly-cotyledonary Placenta,
The Pothology of Mombronous December 174	
The Pathology of Membranous Dysmenor-	C 1 . T
rhœa	Complete Torsion of the Cervix Uteri of a Cow 5
Note on the Treatment of Chronic Inversion	Fibroma Vaginæ 5
of the Uterus	The Risks and Treatment of Intra-uterine
Specimen of Hydatiginous Degeneration of	Hydrocephalus as a Complication of La-
the Chorion	bour, with the History of a Case 5
Specimen of Placenta	Diagnosis of Dropsy of the Amnion 50
On Retention of the Urine in the Female . 181	Specimen of Medullary Sarcoma of Cervix
Case of Cephalotripsy 194	Uteri 6
Specimen of Extra-uterine Fœtation 235, 515, 783	Specimen of Ovaries removed for Dysmenor-
	rhœa 6
Specimen of a Dicephalous Monster 235	Specimen of Sarcomatous Tumour of the
Specimen of a Double Uterus and Vagina 236 Specimen of Myxoma of Ovary 236 Specimen of Retroflexed Uterus 237	
Specimen of Myxoma of Ovary	Vagina
	Specimen of Pregnant Uterus, from a Patient
Hand behind Head Presentation 237	who died of Uræmic Convulsions . 639, 7
Treatment of Chronic Inversion of the Uterus 238	Case of Arm over Head Presentation, with
The Curves of Midwifery Forceps, their	Prolapse of the Funis 6
Origin and Uses	Notes of Three Cases of Accidental Hæmor-
The Revolutions of the Fætal Head in passing	rhage, with Remarks 6
through a Brim contracted only in the Con-	Report and Clinical Records of the Rotunda
	Hospital for the year ending November
The late Dr. Stokes	ath rear
The late Dr. Stokes	Sth, 1877
Successful Coses of Transferies	
Successful Cases of Transfusion	Obstetrical Society
Tarnier's Modified Obstetric Forceps 314	Annual Report of the London Obstetrical
Specimen of Double Ovarian Cysts, with Fi-	Society
broid Tumour of the Uterus 315	Notes of a Case of Placenta Prævia 7
Pessary for Prolapse of the Uterus 316	A New Form of Abdominal Bandage 7
Ovum Forceps 317, 782	New Midwifery Forceps
Cystic Degeneration of the Ovum	On Puerperal, Remittent, or Septicæmic
Model of Irrigation Bed	Fever
Case of Double Monster	President's Address to the London Obstetri-
On Some of the Changes in the Uterus result-	cal Society
ing from Gestation, and on their Value in	On Digital Dilatation of the Os Uteri during
	Labour
Tahan Camaliant It	Clinical Report of are Cases of France D
	Clinical Report of 752 Cases of Forceps De- livery in Hospital Practice
Preparation of the Lower Part of the Bowel	ivery in Hospital Fractice 7

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OF

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Original Communications.

PUERPERAL CONVULSIONS.

By WILLIAM BERRY, M.R.C.S. Eng., L.R.C.P. and S. Edin.

In this paper it is my intention to record four cases of this affection from my note-book, then review and comment on the causation, prognosis, and treatment of the same.

CASE I .- On 3rd July, 1874, whilst acting as locum tenens for my friend, Mr. Watson, of Lancaster, I was called at 11.30 P.M. to the assistance of the late Mr. Wane, of Morecambe, who had been in attendance for some time on Mrs. E., of Morecambe (primipara). I found she had had several fits, and these continued with great severity, so that we came to the conclusion that it was necessary to deliver at once. On making a vaginal examination I found the breech of the child filling the cavity of the pelvis, though iammed near the outlet. Pains were absent. I introduced the forefinger of my right hand into its left groin, and managed to bring down the breech (but in doing so fractured the thigh) with gradual and equable traction; the rest of the body followed, the head giving us some little trouble. The child was stillborn. The placenta was easily removed, and firm contraction of the uterus obtained.

Previous to my arrival cathartics had been administered. The fits diminished in frequency directly after delivery; but our patient remained comatose during the intervals. We had

cold applied to the head, a sinapism to the nape of the neck, and warmth to the feet.

On 4th July, Mr. Wane found her still unconscious, but was able to get her mouth open. She had had several fits through the night, and had passed water in bed. He administered one grain of opium and two grains of calomel every four hours.

I saw her again, with Mr. Wane, on 6th July, and found she had had several fits the day previous. The bowels had not acted, but she had passed urine in bed. She was semicomatose, and it was with difficulty that anything could be swallowed. The discharges were scanty; the abdomen was very much swollen and tympanitic. I suggested to Mr. Wane that a turpentine enemata should at once be given; and after this had come away, a solution of one drachm of chloral hydrate dissolved in one ounce of water and injected into the rectum, and repeated in four hours; warm poultices or fomentations applied to the abdomen. These were carried out. The fits ceased after the first dose of chloral, and she now gradually recovered.

In this case I have no previous history, nor could any urine fit for analysis be obtained during the time she was under my observation.

CASE II.—On 12th June, 1875, at 6.30 A.M., was called to Mrs. O. in her fourth labour, but found labour had not commenced. I left her and was summoned to her at night, but found very little progress had been made.

At 2 A.M., on the 13th, I found the os uteri dilated to the size of a crown-piece, the head presenting in the right cranial position, the membranes entire; the pains were very feeble. I ruptured the membranes and administered one drachm of liquor ergotæ, B. P. She progressed very slowly, but was delivered at 4.15 A.M. of a fine female child. The placenta was removed without much trouble, and there was very little hæmorrhage.

I remained in the house an hour, and at 5.15 A.M. my attention was called by her nurse to a quivering of the eyelids. I attributed this to hysteria from exhaustion, owing to the loss of sleep the two previous nights; but to my horror,

this quivering ended in a severe epileptiform convulsion. I examined to see if any hæmorrhage had occurred, but found the uterus firmly contracted. I now ordered cold applications to the head, warmth to the feet, and had given to her a dose of chloral (twenty grains) and bromide of potassium (thirty grains) every three hours.

She had no more fits, but had severe pains at the back of the neck and head, with soreness of the limbs for some days, these being the results, I have no doubt, of the fit.

CASE III.—On 6th November, 1876, I was called to Mrs. S., at 3.30 P.M. I found her in a fit, simulating epilepsy. On making inquiries, found she was seven months advanced in pregnancy of her second child, and had remained pretty well up to the previous day, when after a day of laborious work she felt weak and tired, and passed a restless night. I could ascertain nothing in regard to her bowels or bladder. On making a vaginal examination, I found the os dilated to the size of a florin-piece, and the head presenting with the membranes intact. I prescribed for her a mixture of half-drachm doses of bromide of potassium and chloral hydrate every three hours. I saw her again with my assistant, Mr. Marsh, and found she had had four fits in the meantime; they had only administered one dose of the chloral mixture. The fits were increasing in frequency. On examination now I found the os uteri dilated to the size of a crown-piece, soft and dilatable. She was in a semi-conscious state, appearing to be roused a little during the time she had a pain; the pains, however, were very feeble and very infrequent. Mr. Marsh administered chloroform for me, and when she was under its influence I ruptured the membranes, and managed to apply the blades of the forceps after gently dilating with my finger. At 10.45 P.M. she was delivered of a stillborn female child.

The uterus readily expelled the placenta. We remained for an hour and a half after delivery, so as to continue the chloroform, for on the approach of consciousness a return of the fits was threatened.

Nov. 7th.—She is still unconscious; has had two fits during the night; she can, however, swallow. Ordered half-

drachm doses of chloral every four hours, and nutritive liquids at short intervals. Pulse 90. No urine could be obtained for examination.

Nov. 8th.—Still unconscious, but no return of fits; dozes and sleeps after each dose of chloral. Pulse 92, skin warm and moist.

Nov. 9th.—Partially conscious this morning. Tongue pretty clean; pulse 88, regular; bowels open. Complains of soreness of limbs, and is not able to take much food.

From this time she gradually improved, and in less than a fortnight I ceased to attend her.

CASE IV.—On 17th December, 1877, I was sent for to Mrs. C. (a primipara). She had had something like a fit at 7 A.M.; and at 10 A.M., when I saw her, I found she had had something like another. She was drowsy and heavy, unable to answer questions, but able to protrude her tongue when shouted to. The conjunctivæ were sensitive, and the pupils acted to the stimulus of light. The legs were very much swollen, but I could ascertain nothing as to the bowels and urine. Pulse 90, steady and compressible.

On a vaginal examination I found the os uteri would just admit the tip of my index-finger, and was informed that she was only seven months advanced in pregnancy. I prescribed a minim of croton oil and two scruples of compound jalap powder so as to get free action of the bowels, also a diuretic mixture.

Saw her again at 3 P.M., and found she had had three fits in the interval, and the fits were increasing in severity. No action of the bowels or bladder, os uteri in the same condition, vagina moist with slimy mucus.

At 5 P.M. I found she had had three more fits; the last one was very severe, respiration ceasing for several seconds, and the face was of a dusky hue. She had bitten her tongue very severely, the attendant being unable to protect it.

Pulse could not be counted correctly, nor could the temperature be taken. I bled her from the right median basilic vein, taking about twelve ounces; the pulse fell from over 100 to 90, being soft and compressible.

7.30 P.M.—Found after the bleeding she was an hour and

a half without a fit, but since that has had one every quarter of an hour. I now injected ten grains of chloral hydrate hypodermically. I also passed a catheter into the bladder, but failed to get any urine.

9.30 P.M.—Saw her with my assistant, Mr. Neville, and found the fits now occurred every half-hour. Finding no change in the advancement of labour, and recurring fits being after shorter intervals, we determined to bring on premature labour.

Mr. Neville now administered chloroform freely; the os would only yet admit the tip of my forefinger, and the lips were rigid. I gradually dilated the os with my finger, ruptured the membranes, and made out a head presentation. I kept up continuous dilatation with my finger for half an hour. Directly the chloroform was removed we had firm contraction and rigidity of the os. At 10.15 P.M. I had dilated the parts so as to allow me with ease to apply the forceps, and by gradual traction I succeeded in completely dilating the os and delivering her of a puny male child, which after resuscitation managed to live for two months.

Placenta came away easily, and the uterus firmly contracted. Pulse immediately after delivery was 108, but soft and compressible. We found *three* ounces of chloroform had been taken.

At 12.30 P.M. she was still under the influence of chloroform, though the conjunctivæ were slightly sensitive to the touch. Pulse 96.

Dec. 18th.—Had no fits; rather restless towards morning; has managed to drink some thin gruel. She breathes much better, but has passed no urine or fæces. Pulse 88. Temperature 99°.8.

9 P.M.—Pulse 98. Temperature could not be ascertained, owing to her tossing to and fro. She is still unconscious. Ordered:—

R. Potassii bromidi, gr. 40. Tr. hyoscyami, 3j. Aq. ad 3jss. M. ft. haust. S. h. s.

Dec. 19th, 10 A.M.—Pulse 96. Temperature 99°. Had a good night; not so restless; has passed involuntarily some

fæces, and passed her urine in bed. She has taken freely of

gruel.

9 P.M.—Pulse 90. She is semi-conscious at times, then sinks into a state of lethargy. She has been freely moved in her bowels, and passed urine in a vessel. The urine had a sp. gr. of 1025, and contained albumen, but not in a large quantity.

Dec. 20th, 10 A.M.—Pulse 92. Conscious; is able to answer questions. Her tongue is very sore, and there is a feetid discharge from the mouth. She was ordered Condy's

fluid as a wash.

9 P.M.—Pulse 86. Temperature 98°.4. She has talked rather incoherently to-day, but appears well enough to-night. She has a troublesome cough, for which an ordinary cough mixture was prescribed, and a repetition of the draught to be taken at bedtime.

Dec. 21st, 10 A.M.—Pulse 102. No pain, but has slept little through the night. She has passed urine, but not had her bowels moved for two days.

10 P.M.—Pulse 116. Made rambling statements during the day at intervals. Has not slept, but appears pretty well. To have forty grains of bromide of potassium and twenty grains of hydrate of chloral at bedtime, and a dose of castor oil.

Dec. 22nd.—Much better. Had a good night. Talks now rationally. Pulse 96; steady and firm. Bowels moved.

9 P.M.—Pulse 96. Keeps better.

Dec. 23rd.—Tongue cleaning. Appears very well. 10 A.M., pulse 92.

9 P.M.—Pulse 88. Rambles in her sayings at times. Repeat draught.

Dec. 24.—Pulse 84. Had a quiet night, but is troubled with her cough. Repeat draught at night.

Dec. 30th.—Able to get up and sit up for awhile.

Jan. 7th, 1878.—Quite convalescent. Albumen entirely disappeared from urine.

Causation.—It appears now to be pretty generally admitted that albuminuria is the chief cause of puerperal convulsions, for in the majority of cases albumen is found in the urine, either prior to the commencement of the fits, or shortly afterwards, showing that there is nephritis in some form or other, which probably, through inefficient elimination of urea, gives rise to uræmic poisoning of the blood, and this producing changes in the minute structure of the nervous system followed by clonic and tonic spasm of the muscles, hence convulsions.

I was unable to obtain urine from these cases, with the exception of the last, and two days after the fits had ceased I found in it albumen. This patient also, for some few days before the fits came on, complained of difficulty in breathing, inability to pass much water; she had also ædema of the feet and legs, sallowness of the skin of the face, and puffiness of eyelids and backs of the hands. As consciousness returned, the albumen gradually disappeared.

Dr. Galabin, in an able paper on the causation of puerperal convulsions (see *British Medical Journal*, 22nd May, 1875), says, "With regard to the primary cause of puerperal eclampsia, since its association was first discovered by Dr. Lever, in 1843, the conclusion has been generally accepted that, in the great majority of cases, the most important element in its causation is uræmic poisoning of the blood;" and again, "I would remark, first, that the albuminuria is not simply a passive transudation, the result of congestion, but it is the manifestation of nephritis, generally of an acute character."

It has been held by some observers that the albuminuria is consequent on congestion produced by the convulsions themselves, and other causes acting on the kidneys during pregnancy, and on this point I cannot do better than again quote from Dr. Galabin's paper. He says, "In a considerable number of cases we can be quite certain that the nephritis is antecedent in point of time to the eclampsia, for its result, in the shape of cedema, is manifest for a longer or shorter interval before the onset of the fits. In some, the albuminuria is detected and the eclampsia is looked forward to with dread for months before it actually occurs. If, therefore, nephritis is the primary cause in some cases, it is a priori unlikely that the relation of cause and effect should

be inverted in the remainder. Again, if even a passive exudation of albumen were a secondary effect in puerperal convulsions, we should expect that albuminuria would also be produced by other epileptiform fits. It has been supposed by some that this is the case in epilepsy, but evidence appears to show contrary." Leishman says (at page 756 of his "System of Midwifery"), "Epilepsy, when it occurs, is to be distinguished partly by the symptoms of the attack, but more particularly, if not conclusively, by the absence of albumen in the urine, both before and after the attack."

The best definition, which also explains the causation, I take from Leishman, who quotes from Braun. "Eclampsia puerperalis," says Braun, "is an acute affection of the motor function of the nervous system, characterised by loss of consciousness and of sensibility, by tonic and clonic spasm, and occurs only as an accessory phenomenon of another disease, generally of Bright's disease, in an acute form, which, under certain circumstances, spreading its toxæmic effects on the nutrition of the brain and the whole nervous system, produces those fearful accidents."—(Leishman's "System of Midwifery," page 756.)

During the period of pregnancy we have, as has been ably shown by Dr. Barnes in his Lumleian Lectures, an exalted state of the nerve centres, together with an altered nerve nutrition, so as to provide a due supply of nerve force for parturition. We therefore can readily understand that when labour commences, or some other influence is at work producing a discharge of this nerve energy, why convulsions occur in consequence.

Prognosis.—Ramsbotham, at page 447 of his 2nd edition of "Principles and Practice of Obstetric Medicine and Surgery," says, "An attack of puerperal convulsions is one of the most frightful accidents that can happen to a patient in labour." Leishman says, "The maternal and fœtal mortality arising from this disease are subjects of great and obvious interest, since thirty per cent. of mothers have hitherto succumbed to its effects, direct and indirect."—(Opus cit. p. 765).

The prognosis appears to depend on the time at which

convulsions occur, and the frequency appears to be, according to Leishman and others, in the following order—viz., pregnancy, labour, and after delivery. The fatality appears to be in the inverse order in which the convulsions occur, of course excluding convulsions produced by anæmia from post-partum hæmorrhage, which are invariably fatal.

Treatment.—With regard to treatment, each case must rest on its own merits. The main principle must be attended to—viz., removal of the cause; and, secondly, we must allay the irritation of the nervous system. Chloral hydrate and chloroform appear to me to be the only remedies on which reliance can be placed to fulfil the latter indication.

In Cases III. and IV. the patient was kept under the influence of chloroform till all symptoms of convulsions had disappeared.

In Case IV. I had hoped to have succeeded with hypodermic injections of chloral in allaying the fits, and then allowing nature sufficient time to effect dilatation of the os and completion of delivery; but in this I was disappointed: it was necessary to effect delivery more speedily. Chloroform was our only sheet-anchor, and dilatation had to be forcibly effected by the fingers, and delivery completed.

It may be questioned how far this treatment was judicious, as cases have been recorded where the slightest irritation of the os uteri has been followed by a fit. That there is such risk I cannot deny, but with chloroform it is reduced to a minimum; in this case the fits were so frequent and danger so imminent that delivery was our only hope. The fact of no fits occurring after delivery was effected, must tell its own tale, in defence of the line of treatment adopted.

Blood-letting appears to be again coming into vogue in the treatment of these cases, as well as in the treatment of uræmic convulsions after scarlatina.

In Case IV., however, I could not perceive any alteration in the symptoms; the fits appeared to come on with greater frequency, and the venous congestion was very little relieved.

On Bleeding.—Dr. Ramsbotham says, "Bleeding is our great reliance—the lancet is our sheet-anchor, and blood may be taken to a very great extent; it may be necessary to draw forty, fifty, or sixty ounces, nay even more, in the course of a few hours."—(Opus cit. p. 458.)

In ante-partum cases our next step, after the administration of an anæsthetic, should be to empty the uterus; if labour has not already commenced, we must bring it on prematurely by rupturing the membranes, and, if necessary, dilatation of the os; the latter is more safely accomplished by means of Barnes's bags, but if these are not at hand, the os may be sufficiently and safely dilated by the first and second fingers of the right hand. As soon as the forceps can be applied this should be done and delivery effected.

"Emptying the uterus will usually put a stop to the fits, at any rate, for a time, and if there be no permanent injury done to the brain, it will generally mitigate them most materially."—(Ramsbotham, opus cit. p. 460.)

"The result of delivery in effecting a diminution in the frequency and violence of the paroxysm is universally acknowledged, and is recognised in practice by the rule which is admitted to be of universal application—to assist delivery as soon as the condition of the parts indicates that that stage has been reached when the passage of the child may be safely effected."—(Leishman, opus cit. p. 767.)

After delivery is effected, and the uterus emptied of the secundines, we have a valuable remedy in a combination of chloral hydrate and potassic bromide; we have at once an hypnotic and a nervous sedative, these given (half-drachm doses of each) will usually prevent the convulsions from recurring, calming the nervous symptoms and producing quiet sleep.

In pregnant women suffering from Bright's disease it would be well to treat them for this before the period for delivery occurs, and we might probably by doing so prevent an attack.

"It has been proposed, with the view of obviating eclampsia and its dangers, that premature labour should be induced. Tarnier recommends that this should be done before the

symptoms become urgent; but we think Braun's view is decidedly more judicious, when he insists that labour should only be provoked when the symptoms are such that the life of the woman is in danger. When the child is already dead, we are, of course, more justified in having recourse to this measure. When labour comes on without eclampsia, it has been recommended by Chailly that chloroform be employed with the view of warding off the attack."—(Leishman, opus cit. p. 768.)

To summarise the treatment of puerperal eclampsia we have for the three periods:-

1st. During pregnancy.—Purgatives, bleeding, chloroform and chloral.

2nd. During labour.—Chloroform and delivery.

3rd. After birth of the child.—Chloral and bromide of potassium.

CASES OCCURRING IN THE OBSTETRIC PRACTICE OF THE LONDON HOSPITAL.

By G. ERNEST HERMAN, M.R.C.P. Assistant Obstetric Physician.

Carcinoma, beginning in upper part of Rectum, forming a Retro-Uterine Tumour, and giving rise to Suppuration in the Buttock.

E. W., aged twenty-nine, presented herself as an out-patient on November 25th, 1876. She complained of discharge of "matter and blood" from the rectum, with pain. These symptoms had troubled her for a fortnight.

She had been married six years; had had two children, the younger thirteen months ago; had weaned it a month; had suffered from piles ever since the birth of the first child. On further questioning about her present symptoms, she said she had been ill two months, and that it began with shivering. Until then she was perfectly well and strong. Since her illness she had suffered from diarrhœa, and her appetite had been bad. She had lost flesh. On examination, the uterus was found fixed; a hard, not freely movable swelling

behind and at the sides of the uterus. The sound passed $2\frac{1}{2}$ inches, in the normal direction. There was great tenderness behind the uterus. The hurry of out-patient practice prevented the making of a more detailed record. The patient was advised to come into the hospital, but she refused to do so, and nothing more was seen of her till 17th February, 1877. She was then extremely emaciated. There was a hard tumour reaching down to the perineum, between the rectum and vagina, the uterus being pushed up in front. She was admitted.

20th February.—It was noted that the left buttock was more prominent than the right, and there was obscure fluctuation over it. The left part of the pelvic tumour was larger than the right. The patient was in such an exhausted condition that it was not possible to obtain any additional facts about her history.

26th February.—Copious hæmorrhage from the rectum had taken place, which was checked by the injection of iced water. She was extremely anæmic. Fluctuation being detected over the left buttock, an incision was made, and some thin fœtid pus let out. The finger put into the wound came into an irregular cavity, but no free communication with the intra-pelvic mass could be made out.

27th February.—She died.

28th February.—The autopsy was made by Dr. Francis Warner, Medical Registrar.

The body was greatly wasted and anæmic. No marked morbid change in lungs, heart, liver, or spleen; much fæces in large intestine; vermiform appendix fixed in pelvis by adhesions; sigmoid flexure fixed to pelvic growth, the lower part firmly, the upper part by easily broken-down adhesions; bladder united to uterus by soft adhesions, easily broken down; ureters not dilated; no evidence of cystitis; uterus pushed upwards and forwards, it was close behind the symphysis, the os being situated on a level about half-way up this bone. The organ was healthy, but rather small; it was united by soft adhesions to the growth behind it. Between vagina and rectum, reaching down to perineum, was a large mass, of brain-like aspect

and consistence, rising a little above pelvic brim. To this the rectum and lower part of sigmoid flexure were adherent. The part of the growth adjoining the rectum was soft, blackish, and pultaceous. The wall of the rectum was here destroyed, and around the broken-down part were soft brain-like growths, bulging into the rectum, filiform, club-shaped, and mushroom-shaped. The growth had apparently begun in the wall of the rectum or lower part of colon, and spread downwards in recto-vaginal septum. The kidneys were pale, yellowish, peeled easily, and their pelves were slightly dilated. One showed commencing suppurative pyelitis.

The finger put into the abscess cavity in the buttock could be pushed through into the pelvic mass without great force. The lumbar glands were not greatly enlarged; a more minute examination of them was unfortunately not made. The head was not examined.

I am indebted to my colleague, Dr. Charlewood Turner, for the following account of the microscopic characters of the tumour:—"The specimens submitted for examination were from the bowel at the margin of the growth, and showed the muscular tissue of this part where it was becoming invaded. The muscular fibres of the bowel seemed to be separated from each other by swollen and finely granularlooking intercellular substance. The muscular fibres and their nuclei were not swelled. Scattered throughout amongst the muscular nuclei were a number of small round nuclei, deeply stained. These were clustered here and there, and were more numerous in the neighbourhood of the invading processes of the new growth. These invading processes of new growth projected into the muscular tissue in elongated, rounded masses, with well-defined outline. It could be seen moreover that the line of separation between the two tissues was not sharply drawn, but uneven, the cells of the growth at some points projecting further than at others; nor was there any appearance of the muscular tissue having been pushed aside, or compressed and distorted. Strands of the muscular tissue could be seen traversing the masses of growth. In some parts of the section, transverse sections of similar invading processes were seen, with complete circular or oval outlines. At certain points where the section seemed to have passed through the surface of one of these, nuclei of the growth and those of the muscular fibre were seen mingled together, but so that when the adjustment was changed, while muscular nuclei were mostly seen at one level, the nuclei of the growth were mostly brought into focus at another. In other parts of the section narrow lines of nuclei like those of the growth were seen apparently running along the course of small vessels. The growth itself consisted of well-defined nuclei, crowded together, varying in size from that of a red blood corpuscle to twice its dimensions, and of a circular or oval outline, but without any distinct cell body around it. In the thinnest part of the section a delicate intercellular reticulum could be distinctly seen, indicating the lymph-gland-like, sarcomatous character of the growth."

I have thought this case worth putting on record, on account of the unusual position of the growth. Forming as it did a retro-uterine tumour, pushing the uterus forwards; being accompanied with a fluctuating swelling in the buttock; and the history given being of a sudden onset, with shivering: it in these points resembled an abscess, for which it was at first taken. I have not been able to find any case recorded resembling this in the position and clinical characters of the growth: nor, in the ordinary text-books, any mention of the occurrence of such.

Fibroid Polypus of Uterus, symptoms beginning thirteen years after the Menopause.

S. V., aged sixty-four; widow; admitted September 19, 1876; has had six children. Catamenia ceased when aged fifty-one. No hæmorrhage from that time until six months ago. Occasional pain in lower part of abdomen for last two years. Fœtid, greenish-yellow discharge for last seven months. Hæmorrhage, at first occasional, for six months; the last two months almost daily, and gradually increasing in quantity. On examination a polypus the size of a hen's egg was found protruding from the cervix. The pedicle was divided with scissors, and the patient did well. For the facts about

her previous history I am indebted to her medical attendant, Dr. Timothy Richardson, of the Commercial Road, who, on 27th October, 1877, tells me she is in excellent health.

Polypus Uteri—Removal by Écraseur—Severe Secondary Hæmorrhage on third day—Recovery.

L. M., aged twenty-eight. Admitted October 31st, 1877. Stated that she had had two children and two miscarriages, the last six months ago. Ever since this had had severe flooding, coming on every day or every other day. Upon examination a polypus about the size of a large walnut was found protruding from the os uteri. On 2nd November it was removed without difficulty by the wire-rope écraseur. No appreciable hæmorrhage followed at the time. The polypus, on section, seemed of structure like the softer kind of uterine fibromata. On 5th November, at 8.30 A.M., the resident accoucheur was called to the patient. He found much blood in the bed, the vagina full of clot; the patient blanched and faint, her pulse weak and fluttering. She said that the loss of blood had begun at 10 P.M. the previous evening. The vagina was cleared of clot and plugged with tenax, and ergot was given in full doses. No further hæmorrhage took place, and on December 21st the patient was sent to the country, convalescent, though still very anæmic.

Suppuration in Right Ovary and Veins of Broad Ligament, twelve weeks after delivery, four days after commencement of intra-uterine treatment.

(Reported by Dr. A. G. BUCKLAND, Resident Accoucheur.)

M. A. C., aged twenty-eight. Admitted 27th March, 1876. Menstruation had always been painful. Married when aged twenty-two. Had three children. Much hæmorrhage after each confinement. Had felt "out of sorts" during the whole of her last pregnancy, suffering from cough, giddiness, and headache. Confined ten weeks before admission. A week after confinement she began to suffer from pain in micturition, and the urine was "thick and white." Had no appetite; had pain after food; much flatulence. Bowels were

confined, and defecation was attended with much straining and pain. She had pain in back, loins, and hypogastrium. The lochial discharge ceased at the end of a week. The headaches became worse.

On admission she was anæmic, looked languid and depressed, dark circles under eyes, complexion muddy. The uterus was not appreciably larger than normal; it felt soft and flabby; the cervical canal was patulous, admitting Playfair's probe with ease; the uterus was slightly bent forwards; no physical signs of disease elsewhere; no pyrexia; no albuminuria.

5th April.—The cervical canal was cleaned with a Playfair's probe covered with cotton-wool, and a zinc point put in.
7th April.—She felt much better. A zinc point again introduced.

9th April.—Shivered; complained of pains in groins and back. Evening temperature, 104°; it had previously been normal.

On 10th and 11th April she again shivered. Complained of pain in left groin, worse on movement; no tenderness.

13th April.—Again shivered. Said she had a "labour pain." In the evening she was slightly deaf; complained that her sight was dim; her speech was slow and somewhat syllabic. Pulse intermittent; hæmic murmur at base of heart. Temperature, 104°8. There was evident, though slight, discomfort on pressure over lower part of abdomen. The uterus was low in the pelvis, slightly inclined backward. Movement of the uterus caused pain. On examination per rectum, pressure to the right of the uterus caused pain, and there was some fulness and resistance in that region. Ordered gr. v. of quinine, three times a day.

14th April.—Urine contained one-fourth albumen (none on admission).

16th April.—Delirious. Urine passed in bed. Limbs somewhat rigid; says she cannot move her legs.

She continued in much the same state, the morning temperature averaging between 100° and 101°.5; the evening temperature between 102° and 104°.

6th May.—She was in a "typhoid state." Tongue, lips,

and hands tremulous. A small bedsore, and a larger ecchymosis on sacrum. Sudamina and herpes on the lips; no other rash. A few bronchial râles, no marked dulness in chest. Frequent diarrhœa. No joint pain or swelling.

8th May.—Crepitation over lung bases. In the evening she died.

The autopsy was made by Mr. M'Carthy. There was suppuration in the right ovary and veins of broad ligament. Acute cystitis; congested kidneys, cortical substance swollen and pale; no ulceration of bowels; liver fatty; lungs pneumonic posteriorly. Brain not examined.

ANTISEPTIC PRECAUTIONS IN MIDWIFERY PRACTICE.*

By F. W. Newcombe, M.D., C.M., M.R.C.S. Eng., &c.

MR. LISTER'S treatment with regard to wounds is now so well known, so much practised, and its benefits so well established, that it seems a little strange obstetricians have not endeavoured to utilise it in their own specialty in a more thoroughly systematic manner.

In the following remarks there is no pretence to bring anything new before the profession, but simply an endeavour to prove that, by a careful adherence to details, the danger of septic influences injuring obstetric cases may be minimised, a large amount of suffering prevented, and some lives saved.

No man attends an ordinary case of midwifery without the fact staring him in the face that, however natural that labour may be, however strong and healthy the woman, young or old, rich or poor, she may still unaccountably fall a victim to blood poisoning, and all the fearful episodes of puerperal complications.

How much more danger, then, is incurred if the labour is one requiring manual or instrumental assistance, or the woman an unhealthy, delicate subject?

Every woman after her confinement is in the same position

^{*} Read before the Northumberland and Durham Medical Society.

NO. LXI.—Vol., VI.

as a person after a surgical operation, liable to the same dangers, influenced by the same causes, and, if affected by the same miasmas, the resulting lesions having similar terminations.

If a person simply scratches his finger, and exposes the wound to some septic influence, the lymphatics inflame, the glands swell, abscesses form, perhaps gangrene occurs, and probably death; how much more danger, then, would a woman run if, after her confinement, she were exposed accidentally to the same poison? Look at the anatomy of the parts; the vagina, an open drain, down which pours the discharge from a large and exposed vascular surface, every movement of the patient opening the passage, and giving access to the subtle poison germs, or bacteria, which can easily find their way, and locating themselves on the exposed surfaces, produce their specific results.

The veins are so much enlarged in that part of the uterus where the placenta is attached as to gain the name of uterine sinuses.

It is still a moot point whether there be direct vascular communication between the placenta and uterus, but whether the curling arteries terminate in intermediate cells, and the uterine veins begin and return without dividing and subdividing in the placenta, or, as Dr. Reid says, that umbilical tufts enter the uterine sinuses, or that there is a process of exosmose and endosmose, there is no doubt that after the placenta is removed, and unless the uterus thoroughly contracts, or clots form at the orifices, there are open-mouthed bloodvessels from which hæmorrhage may take place, and jeopardise the life of the patient in as great a degree as if her leg had been amputated and the femoral artery left untied. And even if occlusion takes place, there is still an exposed vascular surface, bare of decidua, and as ready to take on septic action as in a stump after amputation.

It is a matter of doubt to me whether there is such a disease as idiopathic puerperal fever, and I have almost come to the conclusion that septic poison is the originator of all puerperal evils. If part of the placenta or a clot be left in the womb after parturition, it will, as a rule, be disintegrated and expelled without any harm to the patient, unless air charged with bacteria is allowed to enter, when decomposition will ensue, absorption and blood poisoning following as a natural sequence.

In a paper read before the Société de Chirurgie, M. Verneuil maintains the opinion that pregnancy and the puerperal state have a special influence in predisposing to suppuration, and relates cases in support of these views.

Churchill says that puerperal fever prevails most during alternations of cold and warm moist weather, the very season when the fermentation of organic matter and the dispersion of poison germs are most likely to take place. He further states that the two epidemic diseases which most commonly prevail at the same time as puerperal fever, are erysipelas and typhus, especially the former, whose presence in surgical hospitals is always indicative of impending puerperal fever. If, then, it is true that we never have an epidemic of erysipelas in any hospital where the antiseptic treatment is thoroughly carried out, why should not our obstetric cases have a similar preventive treatment as our surgical?

In nearly all cases of labour some slight breach of surface occurs, and there is no doubt that the slightest breach of continuity is sufficient, if locally infected, to give rise to all the sequelæ of puerperal complications—nay more, I feel convinced that the mucous membrane itself, if much congested and bruised by the effects of a hard labour, may become the nidus for septic poison if the contaminating material comes in contact with it.

And what are these complications? Fever and inflammation, inflammation of the womb itself, called puerperal hysteritis or metritis, endometritis, peritonitis, spreading to the Fallopian tubes, ovaries, broad ligament and bowels, inflammation of the veins, phlebitis, phlegmasia dolens, thrombosis, plugging of some distant artery causing abscesses in distant localities, inflammation of the uterine lymphatics, pleuritis, pericarditis, arachnitis, enteritis, purulent deposits inmuscles or joints.

The lying-in woman is also much more liable to be attacked

by any specific fever to which she may be exposed—puerperal, scarlatina, gastro-enteric, &c.

Furthermore, our patients often date the commencing trouble of fibroid or ovarian tumours, cancer, retro- or anteflexion, &c., to a bad inflammation after childbirth.

The mammary glands are also apt to take on morbid action from septic influences; the milk is deteriorated, and the infant poisoned, either directly from this source, or from infection from contact with the mother. Besides these dangers, we must also consider the number of innocent lives lost by the medical attendants, nurses, &c., carrying the subtle poison in their hands and clothes, and infecting the next obstetric case attended; and knowing the difficulty of removing the taint when once contracted, it behoves every "accoucheur" to do his utmost, on the principle of prevention being better than cure, to hinder its development, and I believe this can be done by care and perseverance in the use of antiseptics.

When we consider that seldom an operation, be it a minor or major one, is now performed without antiseptic precautions—without carefully excluding the access of air to the wound—without surgeons, nurses, &c., carefully disinfecting their hands in carbolic solution—and that these measures have so lessened the danger that operations are now performed at times and places never dreamt of, is it not just that the lying-in woman should have the same immunity from danger accorded to her, and the risk removed of septic poisoning?

It may be said that it is impossible to carry out Mr. Lister's theory in extenso in midwifery practice. Granted; but I contend that even its partial adoption in the best way will induce both patients and attendants to use greater care during these times, that cleanliness will be promoted, and a better knowledge of simple sanitary arrangements be disseminated among the people.

Much, of course, depends upon the will of the patient; old prejudices are to be overcome, and the nurses urged to perseverance; and as the latter become better trained and more competent, and the valuable lives of our wives not exposed and left during the most critical period of their lives to the sensibilities of any drunken woman who presumes to earn her living as monthly nurse, I feel confident that the dread which assails our lady patients when the time of their peril draws near—and not without cause—may, in the future, be greatly lessened, and that she will trust herself in the hands of her medical attendants with the confidence of knowing that all the safeguards of science will be used in her behalf.

In considering the routine to be observed on being engaged to attend an obstetric case, the lady should be advised as regards the lying-in chamber, its contents, and her personal attire. The chamber should be light and airy, and there should be no doubt about its purity; indeed, I think it is a good plan to stove it out before the confinement with sulphur, for fear that unknown cases of infection may have been treated in it previously; afterwards the floor, walls, &c., should be thoroughly washed. The mattress had better be left in the room during fumigation, and afterwards, with the bedding, be left exposed to the air for some time. There is nothing so dangerous as for a lying-in woman to be put to bed on a mattress on which some sick person has previously been treated. This matter is always particularly attended to in a well-conducted hospital, and, when neglected, serious results often arise. As an example, I may mention what occurred in an hospital from neglect in this particular. woman was operated upon for a uterine tumour; she died from inflammation spreading to the peritoneum. Shortly afterwards another woman occupying the same bed was operated on for a small tumour of the cheek, and did well for four days; on the fifth she was taken unaccountably ill and died. On a post-mortem examination being held, peritonitis was found and blood poisoning. The house surgeon who conducted the examination pricked his finger and died from blood poisoning and erysipelas.

It afterwards transpired that the mattress on which the first woman died, not having been thoroughly aired, infected the second case, who died of peritonitis, although she had no uterine lesion, and the operation on the face having nothing

to do with the cause of death. If, then, these germs could cause peritonitis by passing into a healthy uterus and through the Fallopian tubes, and I see no other way they could have travelled, it would undoubtedly have been certain death to a lying-in woman had she been confined on that mattress, and I have little doubt that every case of blood poisoning happening after confinement could be traced to some such source. No woman should be confined in a room or on a bed in which an infectious case has previously been treated, and the sooner a more thorough knowledge of this danger is circulated among the people the better. It is difficult for a medical man to be always on the alert; called perhaps suddenly to a case, the woman in the last throes of labour, everything seemingly clean and right, his whole attention occupied with his patient, how is he to know until the time of action is past and the mischief done that a case of scarlet fever has been treated upon the bed within a short period? It is too late then to educate the poor victim to a knowledge of her danger.

After the room has been disinfected, all superfluous furniture, woollen articles, curtains, and carpets should be removed. Care should also be taken that no sewer gas can permeate the apartment from the proximity of a sink or water-closet. I don't like even to see a wash-basin with a plug in a bed-chamber, for fear the waste-pipe enters directly into a drain.

The blankets, sheets, &c., should be thoroughly disinfected. and I think every accoucheur should enjoin his patient to procure new diapers to use after her confinement, as these articles, saturated, perhaps, for years with an animal fluid washed and used again and again, cannot be free from taint.

These should be thoroughly steeped in a solution of carbolic acid and dried.

Three or four new sponges well washed in clean water, acidulated with a little hydrochloric acid, should be kept in a jar filled with a solution of carbolic acid, and should be used entirely for washing the external parts after confinement, and, after each ablution, should be thoroughly washed and

returned to the jar, no soap or dirt being allowed to come in contact with them.

They go by the name of antiseptic sponges.

With regard to the breasts, I believe that many mammary abscesses are caused by septic poison attacking a chapped nipple, derived either from foul linen or a polluted atmosphere. To prevent this, I should advise the pieces of flannel, &c., used by patients to protect their breasts, and soak up the overflow of milk, which runs out in some cases in great profusion, to be thoroughly soaked after each washing in a solution of carbolic acid.

A bottle of carbolic acid should also be provided, and the surgeon should lubricate his whole hand, and not simply his finger, every time he examines the patient; and, if this is done with regularity, I venture to assert we would not hear such frequent complaints of inability to rid the hands of infection, or of accoucheurs contracting syphilis. parenthesis, I may mention that a little styptic collodion applied to any chap or sore on the hand is a good protective, and is not easily washed off, and I think a small bottle should always be included among our "impedimenta."

The nurse should be enjoined to wear clothes of a washable material, and free from infection, and on no account be allowed to attend an obstetric case if her previous engagement was with a person suffering from an infectious disorder.

A large square of gutta-percha sheeting, well washed with carbolised water, should protect the bed during the confinement.

If forceps or other instruments are used they should be previously placed in a solution of carbolic acid.

The antiseptic sponges would be found very useful also in case of post-partum hæmorrhage, fastened to the end of a piece of whalebone. What better instrument could there be for first sponging out the clots, and then being saturated with a solution of perchloride of iron, pressed firmly on the bleeding site, at the same time using counter-pressure externally, even if the uterus contracted firmly, and the sponge was left in situ, being antiseptic, would do no harm, and be expelled probably next day?

And this practice would be much safer than simply injecting a solution of iron after Dr. Barnes's method, and much less likely to induce sudden death by a venous thrombus blocking up the heart.

During the after-treatment the antiseptic napkins should be frequently changed and vagina sponged. I would even advocate in some cases, where involution of the uterus was not very firm, a syringing out of the uterus itself with a solution of carbolic acid two or three times a day, so as to dislodge any clots or shreds of membrane that may perchance remain. But this operation should be done without force, for fear the injection should enter the Fallopian tubes and excite peritonitis.

As a chamber disinfectant, I find terebene useful blown from a spray apparatus, and it has also a grateful odour.

The temperature of the room should be kept evenly at 65 degrees.

In conclusion, I think that by strongly urging our nurses and patients to use and submit to a continued and routine antiseptic treatment, and educating them both by our example and precept, that a widespread knowledge of the danger of infection, and the utility of perfect cleanliness at these times, will be promoted, to the benefit of the community and the honour of our profession.

CASE OF ABORTION AT THREE AND A-HALF MONTHS, IN WHICH THE PLACENTA WAS PROBABLY RETAINED.

By David Young, M.D., Florence.

I VENTURE to bring the following case before the readers of the JOURNAL, as it presents one feature of remarkable interest—viz., that neither the placenta, nor any part of it, was ever found to have been actually expelled from the uterus. It has fallen to my lot to attend nearly three thousand midwifery cases, and amongst them the average number of premature births; but not one of them took the same course, or excited greater interest to myself, than the one which I am about to relate.

In the beginning of June, I received an urgent message to

visit Mrs. B. S. On my arrival I found Mrs. S. lying on the bed, blanched and almost pulseless. Her sister hurriedly told me the following particulars:—

Mrs. S., who was between three and four months pregnant, had walked to the city—a distance of nearly a mile—after lunch, paid several visits, and was returning quietly homewards. The day was intensely hot, and before she reached home she became very tired, and, when within sight of her house, was seized with sudden faintness. She was just able to get upstairs to her room when violent flooding came on, and she fainted. They placed her on the bed, and when I arrived I found her in the condition I have mentioned. The Italian maid had taken everything away, and, in her fright, threw the whole into the servants' water-closet—which communicated with the cesspool by means of an eight-inch waste-pipe—and could give no intelligent account of what she had seen, so that the fœtus was thus lost.

Mrs. S. had lost a considerable quantity of blood, and on examination I found it still trickling. The uterus was large, the os about the size of a florin, and the placenta partially protruding through it. The placental mass was so far external to the os that I could, with little difficulty, seize it sideways between the tips of the index and middle fingers. With this slight hold of it I could not move the mass in the least, as it appeared to be firmly held by the uterus. Being afraid of exciting my patient by introducing the whole hand into the vagina, I plugged the canal with strips of cotton wadding soaked in water and glycerine, and gave a full dose of ergot.

I returned about 10 P.M., and found her comfortable, and, as there was no bleeding, I deemed it prudent to leave her quiet for the night.

Next morning I removed the plugs, and found matters little altered, save that the os was a trifle smaller, and the mass a little further out of reach of the finger. There was a very slight lochial discharge, which had an offensive odour. The weather being very hot, and the odour decidedly offensive, I resolved to give the patient chloroform and remove the placenta.

Meanwhile, ordering an injection of Condy's fluid, I went to pay an urgent visit a few miles out of Florence. I returned in about three hours, and on my way asked my friend Dr. F. to accompany me. Dr. F. examined and satisfied himself that the mass filling the os was placenta, but that it seemed to be smaller than I had given him to understand. I now made an examination and found that the os had contracted to about the size of a sixpence, and that the mass could still be distinctly felt, but was receding within the os. A new difficulty now arose. Mrs. S. was very nervous, and would not consent to take chloroform. The probable danger of her condition was pointed out to her, but she remained firm in her resolution. I now ordered injections of Condy's fluid every two or three hours, and the patient to remain quietly in bed. The napkins were to be carefully laid aside for examination morning and evening. During the next ten days there was a mere trace of lochial discharge, scarcely enough to soil one napkin in twenty-four hours; the odour quite passed away, and in forty days from her first seizure the regular period came on as usual, and was normal in every way. What had become of the placenta?

1. That the mass was placental Dr. F. and myself had no doubt.

2. That it did not come away en masse, or as a fœtid discharge, I am equally sure.

The amount of discharge was so small during the ten days which it lasted that it could not have disappeared in this manner, and that it was expelled whole I cannot believe. Every care was taken that it should not escape notice. Every napkin was examined, and the patient herself gave every assistance, and all the more so as she was anxious to start as soon as possible upon a long journey by sea, to join her husband in a distant land, and was very solicitous to have the matter cleared up.

3. The next period threw no light whatever upon the question. It was, as I have said, normal in every way.

4. It is not likely to have been retained in the form of a placental polypus, as there has been no sign of menorrhagia

at the regular period, which I believe is usually a symptom of the so-called placental polypus.

5. Probably it has been absorbed, according to the views

of Naegele, Osiander, and other continental writers.

I may further mention that Mrs. S. has made the journey to Syria comfortably, and has had no symptom whatever indicating uterine irritation—the period coming on regularly as before her illness.

Abstracts of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, 6th March, 1878.

Dr. Charles West, President, in the Chair.

Dr. Galabin showed a modified form of Dr. Peaslee's metrotome. The principle was the same as that applied in Civiale's urethrotome and in that of Sir Henry Thompson, the instrument consisting of a straight tube, very narrow for its terminal two inches, within which slides a blade with a lancet-shaped point, but blunted at the actual extremity. Two or more blades were supplied with each instrument, the most useful widths being $\frac{3}{16}$ inch and $\frac{1}{4}$ inch. It was especially applicable for incision in cases of stenosis of the internal os, although it might be used also for the external os. The advantage was that it divided both sides equally to an exact and very moderate extent; while Simpson's or other similar metrotomes were apt either to cut too deeply, or, if the operator were timid, not deeply enough. It could also be introduced through a very small canal, while the single or double-bladed metrotomes were made larger than the ordinary sound, and could not be passed in the cases which most required incision. In the modified instrument the tube was made round instead of flat, which much facilitated its introduction. The terminal part was only $\frac{1}{10}$ inch instead of $\frac{1}{8}$ inch in diameter at the end, and only $\frac{1}{10}$ inch at the position corresponding to the internal os. A spring was also introduced within the instrument, which prevented the blade sliding forward prematurely, and returned it after use.

Dr. AVELING said that the principle of the instrument was a very old one. He objected to a metrotome which cut on both sides, but thought it might be useful as preparatory to the introduction of the

single-bladed metrotome.

Dr. Galabin also showed microscopic sections prepared by Dr. Herman and himself from the tumour shown by Dr. Chambers, and

referred to them at the last meeting. Although it had a soft gelatinous appearance resembling cancer, it proved to be a very soft fibromyoma. In the sections would be seen spaces with excessively thin walls, lined with nuclei at regular intervals. These were clearly nuclei of endothelium, and the spaces were therefore venous sinuses, destitute of muscular or fibrous walls.

The report by Dr. Galabin and Dr. Herman on the tumour shown by Dr. Chambers was then read. The specimen consisted of the enlarged uterus and both ovaries, with part of the broad ligaments on both sides, and a large tumour, apparently situated between the layers of the left broad ligament. The uterus formed a globular mass, $5\frac{1}{4}$ inches in length, and had been divided at the situation of the internal os. Its cavity was filled by a tumour growing from its left wall, having no capsule, but being continuous with the uterine tissue. It encroached irregularly on the uterine wall, the thickness of which varied from $\frac{1}{6}$ to $1\frac{1}{4}$ inch. The uterine wall, in its free portion, was \(\frac{3}{4}\) inch thick. Both ovaries and Fallopian tubes were intact and free from adhesion. The large tumour, when laid upon a tray, measured 13½ by 7½ inches. It contained two considerable cavities, having no definite cyst-wall, and numerous smaller ones. The contained fluid was reddish, and similar to that usually found in fibro-cystic tumours, containing fibrin and much albumen, but no paralbumen or mucin. There were several small pedunculated growths on the right side of the uterus, some projecting into the peritoneal cavity, some into the broad ligament. These and the large tumour were continuous with the uterine substance. The structure of all the tumours was that of a fibro-myoma, having very numerous and wide interspaces between the bundles of fibres, and, in many parts, numerous nuclei scattered throughout the tissue.

A postscript by Dr. Chambers, relating the subsequent history of the case and the post-mortem examination was also read. Four hours after the operation the patient had pain in the back and nausea. Pulse 84; temperature 100°. The urine was drawn off, and was tinged with blood, as it was on subsequent occasions. The next morning the pulse was 120, temperature 101°, and there was some vomiting. Death took place twenty-six hours after the operation. At the autopsy the bladder was found to be very much elongated, and appeared to have been drawn upwards, as by the ascent of the tumour, so as to form a cone-shaped cavity, the cone being involved with the tumour so intimately as to escape recognition during the operation. The result was that a small piece of the cone was ensnared in the ligature which embraced the whole stump, and that its tip was removed with the tumour. Although the bladder was not inflamed, it was but fair to suppose that the injury it sustained con-

tributed greatly to the result.

Dr. Haves showed a new form of tube which he had devised for the injection of the uterus, after labour or abortion, with disinfectants, perchloride of iron, or hot water. He had found that the gum-elastic tube of a Higginson's syringe was too short, and too flexible when heated. It was therefore liable to catch in the cervix and double up. There were also too few perforations in it, so that the fluid came out in separated streams, and was not sufficiently diffused. The tube shown was long and slightly curved towards the end, which was perforated by numerous small holes, so that the fluid was discharged in the form of spray. It was made of silver, and could therefore be boiled in a solution of carbolic acid.

Dr. Rogers had had a very similar instrument made for him twenty years ago. The perforations were the same, but the diameter not quite so great. It was filled from an india-rubber bag, to which

it was attached by a stopcock.

Dr. CLEVELAND thought that the instrument shown was very excellent, especially in respect of its length; but he had never heard of the short tubes condemned by Dr. Hayes being used for washing out the uterus. He thought they were only intended for the vagina. He had often used a number 12 or 14 catheter, fitted on to a

Higginson's syringe.

Dr. MURRAY thought that the tube for intra-uterine injection should have large apertures in preference to small ones, which were very liable to become clogged up, especially in the use of perchloride of iron. With reference to Dr. Chambers's operation, at which he had been present, he said that no one at the time had any idea that the bladder was implicated with the tumour. The operation was performed in the most skilful manner, and but for this the patient would have had every chance of recovery.

Dr. Fancourt Barnes exhibited some vulcanite tubes, which had been devised by Dr. Robert Barnes, for injection of the uterus with solution of perchloride of iron after abortion. They contained pieces of sponge soaked with the solution, which was made to ooze slowly out through eyelet-holes at the end of the tube by means of a piston. The alleged danger of forcing the fluid through the Fallopian

tubes into the peritoneal cavity was thereby obviated.

Dr. Herman exhibited a specimen of a Unicorned Uterus, and read the following description:—The uterus lay close to the right pelvic wall. The right Fallopian tube and ligaments were short, but otherwise normal. The left ovary was high up on the left side, near the internal abdominal ring. The left canal of Nuck was very large, and a thick fibrous band proceeded from the ovary down this canal. The end of this band presented an enlargement, which was more vascular than the rest. A thin but firm and strong fibrous cord, between two and three inches in length, united the ovary to the upper part of the rectum. On the surface of the pelvic peritoneum a flat band of slightly diverging fibres could be seen running from the cervix uteri in the direction of the left ovary. Both ovaries showed signs of having discharged ova. The patient was unmarried, and aged forty-

nine. It was stated by her sister that she had ceased to menstruate for three years, that the flow had always been scanty, and that she never complained of pain. She died from capillary bronchitis.

Dr. Matthews Duncan contributed a paper on "Traction by the Lower Jaw in Head-last Cases." He commenced by saying that by the traction referred to two objects were professed to be gainedflexion of the head and extraction, each of which aided the attainment of the other. Attempts to secure these objects by the fingers applied to the fossæ caninæ were in vain, because the force in a right direction available by such procedure was of too small amount. For the maximum force which could be gained in this way was only that due to the friction of the pulps of the fingers, while a far greater force, in a useless direction, had to be exercised by the direct pressure of the fingers, in order to call out this friction. Flexion might certainly be brought about in this way, but there was grave doubt whether any advantage was thereby gained. He had tried to make an experimental demonstration of its value, but had been obliged to give up the attempt. Besides traction by the lower jaw, there were two other sources of power: first, pulling by the feet or otherwise through the spine; this was the paramount force. Second, expression, which by mere strength of the accoucheur's arm might be estimated as from 30 lbs. to 40 lbs., or, using the weight of the accoucheur's body, might reach 100 lbs. The dangers attending spinal pulling and expression were very considerable. Those of the latter method were as yet but little known. Danger in head-last cases, when the base of the skull was in the brim of the pelvis, was not from compression of the cord, but from asphyxia and from inhalation of solid and fluid matters into the lungs, the placenta being already useless and separated by shrinking of the uterus. Speedy delivery was often desirable, and lower-jaw traction deserved consideration when there was obstruction requiring the use of force, and when the other forces were not sufficient. using external expression, the obstacle might be aggravated by the effect of the pressure in changing the shape of the head. The full amount of effect attainable in the case of a dead child by the third method, or lower-jaw traction, might be ascertained by laboratory experiments, but he could not state the limits compatible with the life of the child. The object was to save the child, when its death was imminent; and therefore a force might be expended nearly approaching to the full limit, care being taken only not to disintegrate the structures. Veit stated that, with the aid of this method, a child might be drawn through a contracted brim, with a deep indentation of its skull. Carl Ruge's experience was that, in its use, luxations of the lower jaw were very rare, but did sometimes occur, with or without laceration of soft parts. He related three cases of injury done, one of laceration of the cheek extending outward from the angle of the jaw, with separation of the symphysis of the lower jaw, a second of separation of the same symphysis, and a third of fracture of the mandibula. The author could not himself record any such accidents in practice, and their occurrence would not entirely destroy the value of the method. In making traction on the lower jaw, the force was applied at the temporo-maxillary articulation. This was considerably in front of the medial coronal plane, in front therefore of the centre of the head's mass, and of the diameter which coincided with the conjugate of the pelvis, and à fortiori in front of the point of application of the force exerted in spinal traction. The force had therefore a certain tendency to produce flexion. The author then described certain experiments with a fœtus suspended in a wooden pelvis, gradually increasing weights being hung upon the lower jaw, but each weight allowed to act for only a moderate time continuously.

Experiment 1.—The weight was increased up to 28 lbs. without injury, but at that point a crack was heard. Experiment 2.—Weight increased up to 56 lbs. without apparent injury. No injury found on dissection. Experiment 3.—At the weight of 58 lbs. slight cracks were heard. Separation of the symphysis was found, but no other injury. Experiment 4.—At a weight of 56 lbs. a large wound was formed on the inside of the mouth over the articulation of the jaw. Dislocation was found to have occurred, with much injury of soft parts. These experiments were sufficient to show that much more force could be effectively applied in this way than was generally supposed. Probably much more than was supposed could be thus employed without injury, even when the fœtus was alive. The exact limits could not be yet laid down, but was probably not far short of 50 lbs. There would be much difference according as the traction were made carefully and well, or otherwise. A compound dislocation of the jaw would be almost certainly fatal to the fœtal life. The whole force applicable might certainly be used in cases of dead children, or children certainly doomed to death, or in cases where the head was left in the uterus.

In the experiments, it was plain that the flexion produced was so slight as to be of inconsiderable value, even when the weight was as high as 56 lbs. The point of application of the force being so slightly in advance of the centre of the head's motion, it acted very disadvantageously as a flexor. The paramount dragging by the spine, as it acted in a case of contracted brim behind the centre of the head's motion, annulled or undid any slight flexion produced by the lower-jaw traction. Experience, however, showed that spinal traction did not much increase extension, and both forces might therefore be used without fear. The production of flexion was not rightly demanded at this stage. It occurred naturally when required as an effect of the mechanism of delivery. The author then quoted the following passage from Dr. Barnes' work on Obstetric Operations:— "It might prima facie appear that (under the application of spinal traction) the occiput, forming the shorter arm of the head-lever, would tend to roll back upon the nucha. But this is not so in practice. The broad firm expanse of the occiput, forming a natural inclined plane directed upwards, is surely caught by the walls of the parturient canal as the head descends. The greater friction thus experienced by a larger superficies favourably disposed, virtually converts the shorter arm of the lever into the more powerful one; it is more retarded in its course; and therefore the chin is kept down near the breast; and therefore, again, there is no need for the obstetrist to meddle in the matter." As ordinarily applied this spinal traction brought about flexion unconsciously, the occiput being fixed behind the pubes. A more forward direction of the traction force produced flexion, a more downward direction extraction. Spinal traction, however, was dangerous to the fœtus if the force exceeded a certain amount. He had little experience of, or favour for, traction by means of forceps applied to the after-coming head. There was an urgent demand for further experiments as to the limit of safety in lower-jaw traction.

The President said that years ago he used to practise and to teach the drawing down of the head by applying the fingers of one hand to the canine fossæ, and pressing up the occiput with the other hand. But we now learnt from Dr. Duncan that it was not possible to achieve much by this method, nor, indeed, did it appear from his paper that we were able to do much more by traction on the lower jaw.

Dr. Fancourt Barnes stated, with regard to the application of the forceps to the after-coming head, that he had practised the operation on the phantom, repeatedly, and had found it remarkably

easy.

The President said that it had always appeared to him one of the great disadvantages of the use of the phantom that operations upon it seemed so uncommonly easy, and he had always hesitated to draw conclusions from these operations to those on living women.

In reply to the President's previous remarks, Dr. Matthews Duncan said that he had particularly pointed out in his paper that the method of Smellie, that of traction with the fingers in the fossæ caninæ, and simultaneous pressure upwards on the occiput, was an efficient and valuable method of delivery in head-last cases.

Dr. Playfair said that of late years he had been much impressed with the great advantage of the expression of the head from above in these cases, in that it could be performed in union with traction. He might be mistaken in his understanding of Dr. Duncan's meaning.

but he thought that he appeared to undervalue this method.

Dr. CLEVELAND said that it was pleasing to learn that one might justifiably use such a large amount of force as mentioned by Dr. Duncan without doing any material damage. There still, however, remained one want—a means of determining what muscular force one was putting forth. How, he would ask, was the operator to know that he was using a force not exceeding fifty pounds? Though he did not boast of being a strong man, he could himself lift a weight of fifty pounds with his little finger, and he might therefore exert a greater force than another unawares.

Dr. Haves said that much force might be used to no purpose if ill-directed. He mentioned a hospital case, in which the Obstetric Resident had tried all means to extract the head, which had caught above the symphysis pubis. He delivered by placing his fingers on the cheeks, and pushing up the occiput. As soon as flexion was produced, the head at once slipped past. Manipulation should be tried before vigorous force was used.

Dr. Roper pointed out that the conditions present in different cases of head-last delivery varied very much. There was a great difference between the cases in which the head was delayed above the brim and those in which it was only delayed in the cavity of the pelvis. He believed that where podalic version had been effected as an alternative to craniotomy, the life of the child was often lost from the head being delayed at the brim of the pelvis. In this case there was not much scope for manipulation, but only for hard pulling,

and lower jaw traction might be much help.

Dr. Braxton Hicks feit that there was considerable difficulty in discussing Dr. Duncan's paper; for the author had not attempted to treat the whole question of the delivery of the after-coming head. Had he done so, he would probably have advocated a combination of traction on chin and neck, and pushing up the occiput, combined with pressure from above, a plan which he had adopted and taught many years. But the point dealt with by Dr. Duncan was quite different from this general question, and consisted in the determination of how much force might be safely used in a particular direction. As to the amount of power put forth, if each man practised with a dynamometer, he would be able to form an approximate estimate for himself, as Dr. Duncan had already pointed out.

Dr. Wynn Williams thought it well to point out that a living muscle, as regarded its resistance to tension, was under very different conditions from a dead muscle. He did not believe that a living child could safely bear the same force that could be applied with impunity to a dead child. The active resistance of a living muscle made it much more liable to injury than a dead muscle. Thus a drunken man might often be thrown from a horse without injury. He believed that much injury was often done by undue traction being made to deliver the after-coming head. He mentioned a case of a boy, now seven years old, whose head was deformed, and the insertion of the trapezius and scaleni separated, in consequence, he was convinced, of undue traction in delivery.

Dr. CLEMENT GODSON said that he been had much struck during Dr. Duncan's experiments with the small amount of force necessary to deliver the after-coming head of an unusually large child on a phantom pelvis with a conjugate diameter of three inches, and the question occurred to him whether the soft parts did not interfere with delivery very much more materially than was generally imagined. A child

weighing 8 lbs. had been brought through a pelvis with a conjugate of three and a half inches by a weight of only 28 lbs. He could not agree with Dr. Duncan in regarding with disfavour the application of forceps in head-last deliveries. He mentioned a case in which a patient had had eight previous children stillborn, Smellie's and other methods having been used. At the ninth delivery he put on forceps at once to the after-coming head and delivered easily.

Dr. Poole referred to a paper contributed by him some time ago, in which he had mentioned that in head-last cases he always had long forceps ready to apply at once. He had never found reason to

regret this plan.

Mr. Mason mentioned a case in which Smellie's method had been tried in vain. At length he applied very strong traction on the mouth, combined with external expression, and this proved successful. No damage followed, nor want of sucking power in the child. In another case of extraction after version Smellie's method had answered well. He had tried forceps two or three times in such cases, and failed with them.

The President pointed out that it was much easier to apply the forceps to the after-coming head when the patient was delivered in what he might call the Continental position, where she lay on her back. Here it was possible to secure ample space for the use of the forceps by drawing the body of the child well forward towards the abdomen of the mother.

Dr. Murray agreed with the President as to position making some difference, but he had nevertheless applied the forceps in two cases with complete success, though the patient remained in the ordinary position, and he considered that the use of the forceps was indicated sooner rather than later in the delivery of the after-coming head when difficulty arose.

Dr. John Williams said that he had several times applied the forceps to the after-coming head, and with the greatest facility. In the last case of this kind which he had seen, he had found it impossible

to deliver by any other means.

Mr. Cockell urged the importance of sweeping the body of the child round towards the mother's abdomen before applying the

forceps.

Dr. Matthews Duncan said that he would restrict his remarks to the actual subject of his paper. As to the use of forceps, he would say no more, having had so little experience of this plan. He had used it formerly, and had no positive objection to it, but did not consider it so good as other methods. He agreed with every one of the criticisms which had been expressed, for they were all in accordance with the argument of his paper. As to the method of expression, he quite agreed with Dr. Playfair; he only wished for accurate data as to how much of the force expended was actually effective. Every one ought to educate his hands with the dynamometer, so as

to be no longer in ignorance as to the amount of force he is expending. As to Smellie's method, it certainly might produce flexion, but it was only useful in the slighter (and more frequent) cases. Both hands were used in it in a way which was incompatible with strong pulling. With reference to difference of strength between living and dead tissue—in practice a child was often either dead or doomed to death. Authorities had discussed the point widely, and the most opposite opinions had been held. He had made many experiments on the tissues, but none short of vivisection, and perhaps not that, could absolutely settle the point. He was firmly convinced, however, that the tensile strength of a fresh dead fectus was identical with that of a living one, and he had found that most physicists agreed with

him in this opinion.

Dr. George Roper related a case of Protracted Labour in which the use of the forceps was typically indicated. The case occurred in October last in a woman, aged forty, who had had thirteen previous labours at full term, all of them severe. On being called to the case by a midwife, Dr. Roper found that delivery had taken place naturally, except for the use of ergot, which had been given seventeen hours after the rupture of the membranes, the os being fully dilated. The drug was speedily followed by very severe and frequent pains, and delivery ensued in two and a half hours. The child, a male, weighing nine pounds and a half, was stillborn, and its appearance indicated that it had very recently died in its birth. Its movements had been felt up to a short time before delivery. The head was of very large size, and the ossification of the cranial bones was so complete that the fontanelles and sutures were nearly obliterated. Another interesting point was that the vault of the cranium was twisted on the base, so that the measurement from the left mastoid process of the temporal bone to the posterior superior angle of the right parietal was much greater than a corresponding line drawn between the same points on the opposite sides of the head. This lateral obliquity was probably to be explained by the severe pressure the left side of the vertex had to sustain against the rami of the left ischium and pubis in the rotation of the head; the corresponding area of the right side of the vertex being exposed to no obstacle, but having the expanse of the pubic arch before it became elongated. Two beautiful casts were exhibited, one of this deformed head, and one of the normal head of a fœtus which had been delivered by the In his comment on this case, Dr. Roper observed that he felt strongly that whenever it was determined to use forceps, the operator should be able plainly to state the indication pointing to the necessity of its use. In the present case there were, apart from the death of the child, many indications of necessity. (1) Accidental discharge of liquor amnii at the very beginning of labour. (2) A woman, aged forty, whose many previous hard labours had enfeebled the uterine force. (3) Great fatness, especially of the abdominal walls, and a weakened state of the abdominal muscles. (4) A large and hardly ossified head to be felt during labour. (5) Three hours of slow progression in the second stage of labour in a woman who had had twelve living children. Dr. Roper thought it could be scarcely doubted that if forceps had been used an hour before the ergot had been given, the mother would have been delivered with much less suffering, and of a living child.

Dr. Heywood Smith thought that the administration of ergot had much to do with the death of the child, and asked if the midwife had

been admonished of her sin in giving it.

Dr. ROPER said that the midwife was a very intelligent woman, and

the administration of ergot was at worst an error of judgment.

Dr. Wiltshire called the attention of the fellows to the cast of the normal child, as well illustrating what he might call the natural asymmetry of the fœtal head. The cast was very well adapted for this purpose, as, the child being delivered by the feet, the head had not undergone much compression during delivery. The two halves of the head might be equal in bulk, though he doubted whether this were so; but in sixty per cent. of the cases which he had examined, the right half of the head was in a plane a little in advance of the left half. This asymmetry affected not only the cranial bones proper, but also the arch of the palate. His own observations had convinced him that it was independent of any compression to which the head might have been exposed during delivery, for it was seen in children delivered by Cæsarian section. He thought that it had some influence upon normal presentations, as to making the first position commoner than the second.

Dr. HEYWOOD SMITH said that the same asymmetry might be seen

on measuring the hats of adults.

Dr. Murray asked about the blue eyes of new-born children as to which Dr. Wiltshire had some while ago instructed the society.

Dr. Wiltshire said that he had since found the same to be true in dogs and calves, whose eyes were blue at first and brown later. Soon after his own paper, Dr. W. Ogle had pointed out that the same thing had been noticed by Aristotle. He had recently had a letter from a doctor at Tobago, who had been led to observe the negro children, and found that they had blue eyes at first. He had himself observed very many children as public inspector of vaccination, and had never yet found an exception. In the Wicklow Peerage Case, the child which had been taken from a Liverpool workhouse, and put forward on pretence of its being the heir, was afterwards disowned by its mother, when taken back to her, because its eyes had changed from blue to brown. The change began about the sixth week, but was not complete till the eighth or ninth month.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, November 14th, 1877. Prof. Simpson, President, in the Chair.

The President delivered the following introductory address:—

GENTLEMEN,—Fellows of the Edinburgh Obstetrical Society,— We constitute to-night the first meeting of the thirty-seventh session of our Society. The special department of medicine which we cultivate must have some peculiar power to interest its followers and inspire them with enthusiasm, when it can call together fortnight by fortnight, year by year, such a goodly gathering of the busiest practitioners. It has often struck me as something remarkable that where it was a question of forming imposing Corporations with splendid halls and libraries, and museums, and sumptuous annual dinners, and having power to issue licences and confer qualifications—the Physicians and Surgeons should each require to found their separate College. The Obstetrician must sink his specialty to find a quiet corner inside one or other of their doors, and they are prepared to give a youth a full title to practise all the healing art who has had only a short three months' course of midwifery. How astonished one of these young licentiates of theirs must surely be to find, that when it comes to be a question of forming a society for the purpose of discussing subjects of scientific interest and practical importance, of relating cases and comparing notes and gathering experience, the Physicians and the Surgeons can do all this kind of modest work in one common Medico-Chirurgical Society, meeting once a month; whilst the little heeded subject of Obstetrics draws its votaries steadily to its own bi-monthly meeting.

It may be worth our while to note that our subject not only has a fascination for the medical practitioner, it exerts a corresponding power over the medical lecturer. We can easily understand, apart from the interest of the subject, how surgery should have four representatives among the teachers under the wing of the colleges. For, 1st, students begin the study of surgery in the second year of their curriculum; 2nd, double courses of surgery are required for some of the diplomas; and, 3rd, there are two chairs of surgery within the University, one of which these teachers may justly aspire to fillchairs which have each been filled up four several times within this century, and almost invariably by men who have been extra-mural lecturers on surgery. The subject which occupies us here is represented within the walls of the University by a single chair, which has only been vacant twice since the century began. The largest demand of any qualifying board is an attendance on a six months' course of midwifery; and that attendance is usually given only by students who have reached the last year of their curriculum, when their ranks have been thinned by the falling out of the weak, and indifferent, and incapable. Nevertheless, we have no fewer than four able extramural lecturers on midwifery; and, if I mistake not, our subject stirs honourable ambitions in the breasts of yet others among our members. So much the better for Obstetrics and the Edinburgh Obstetrical Society. We feel encouraged cheerily to greet this new session, and grasp one another's hand with honest hope that there will come out of our meetings some work that will be good for the advancement of science and for the advantage of our individual patients.

Recent Losses.

But as I speak of grasping hands, I am reminded that there are some hands we shall grasp here no more. In February, 1876, died Dr. Joseph Hardie, whose young efforts among us led us to anticipate for him a career of great distinction. In May of the same year, Dr. Louis Thatcher, who had long borne honourably a name already honoured in Obstetrics in an earlier generation. In June, Dr. Myrtle, another of the well-known worthies of our profession, much valued by an attached circle of patients and friends. In April, 1877, Dr. Brotherston of Alloa, an expert operator, and one of our country members, who delighted to send or bring us some interesting specimen for exhibition, or important case for discussion. In June, Dr. Clarkson Cuthbert, a careful and conscientious practitioner, who found time in the midst of his busy work to give frequent attendance at our meetings, and sometimes to contribute good material to our Transactions. And last of all, since the close of our last session, our aged friend Dr. Ferguson, who had retired from a prolonged practice in the distant Highlands to spend the evening of his life in Edinburgh, and who attended our meetings with a punctuality, and brought to them an enthusiasm and devotion, that were an example to younger men.

A greater loss than all these, however, has befallen us in the removal from our city and Society of Dr. Matthews Duncan. Happily, he has only passed a bourne from which travellers have sometimes returned. Scotchmen have been known to cross the Tweed with a return ticket in their pockets. But, meantime, we miss his impressive presence, his thoughtful countenance, his frequent and always welcome contributions, his weighty words of wise counsel or keen criticism, or kind encouragement. We miss them all and miss them sorely; for I am free to say that Duncan's going has made such a blank as would not be felt on the departure of any of the Fellows he has left behind him. We shall read with deeper interest the Transactions of the London Society, when we see his name among the illustrious names familiarly associated with it. But we shall hope sometimes to receive a memoir for our own Transactions from his fertile pen. Not that we need such a communication to recall him to our minds, because for us his name stands clear among the great names in Obstetrics, but it would ever be to us a welcome proof that distance has not deadened the attachment we have oft heard him express for the Obstetrical Society.

The Society's Publications.

It will not here be out of place to intimate that the fourth volume of our Transactions is now passing through the press, and in the course of two months will probably be published. It will contain the proceedings of the Society during the last three sessions, forming a goodly volume of some 420 pages, and to be had for the modest sum of 10s. 6d. It is greatly to be wished that all the Fellows would subscribe for copies, as the work is published at the Society's cost, and each copy that remains unsold is so much lost to the Society's funds. There is this good reason why those Fellows who have not already done so should do so now, and why, indeed, they should at the same time buy up the yet unsold copies of the three earlier volumes, that it is probably the last time they will have the opportunity of showing their affection for the Society by assisting in this way its modest treasury. For, as many of you will remember, the Council, mainly at the instance of our very energetic and efficient treasurer, Dr. Craig, have made an arrangement with the publishers of the Edinburgh Monthly Fournal for the printing of an annual fasciculus of our Transactions, which will be regularly delivered free of expense to every Fellow who regularly pays his usual annual contribution of five shillings to the funds of the Society. Two or three such fasciculi may be kept, and will be duly paged for binding into one single volume conform with those already published. The only drawback to the arrangement is a very slight one, and it is this:-All the papers read at our meetings will require to be published in the ably-conducted and widely-circulated Edinburgh Monthly Medical Fournal; or if any essayist prefers to have his paper published in some other journal, say in the LONDON OBSTETRICAL JOURNAL, he will be obliged to furnish to the secretary a brief abstract of his paper to be printed in the *Monthly Fournal* along with the report of the discussion on it. The Council expect that this will hardly be felt as a drawback in the carrying out of the new plan, and the treasurer is confident that many more members of the profession will be tempted to join our ranks by the prospect of becoming possessors of our printed proceedings without any expense other than the annual contribution.

Uterine Fibroids.

At the meeting of Council, ten days ago, at which it was arranged that, as your retiring president, I should open this session with a special address I stated that I thought I could venture to address you on the management of Fibroid Tumours of the Uterus, and I do not know that I could well address you on a more important subject. It is not only that they are very common, so that as many as one in every five women have been supposed to be the subject of them. In my own ward journal I find out of sixty-eight cases admitted during the last three years with disease of the sexual system, seven cases of fibroid

tumour, or 10.3 per cent. It is not even that they are detrimental to health and dangerous to life; but it is because they exert such a baneful influence upon the reproductive powers of those who are affected by them. Out of sixteen married women—e.g., who were the subjects of fibroid tumours, and in regard to whose reproductive functions I have made a note—I find that only three had borne children. Thirteen out of the sixteen were barren.

Their Pernicious Influence on Reproduction.

Other diseases of the generative organs may influence the reproductive process at one or more of its stages; but a fibroid tumour may mar the process at any or every step. It may compress the ovaries and hinder ovulation. I have known them such a cause of dyspareunia that the patient could not suffer marital intercourse; or, insemination having taken place, they may hinder the onward progress of the spermatazoa, so that the ovula are never fertilized. Or, again, the spermatazoa may have travelled through the irregular expanded cavity of the uterus, and fertilized an ovum in the Fallopian tube; but the fertilized ovum does not effect a lodgment in the uterine nest, or becomes attached only to be cast off as an early abortion or miscarriage. The fibroid tumour may lead thus to interruption of pregnancy at any stage, and where the development of the fœtus goes on to term, the child is apt to be found at the close in some irregular presentation or position in consequence of the irregularity in the walls of the cavity where it is lodged. Let us even suppose the pregnancy arrived at full time, and the fœtus fairly placed. Yet labour may be complicated in any of its stages. The first stage may be lingering; the second seriously obstructed; the third complicated with grave hæmorrhage. They even carry danger on into the puerperium, for a fibroid in the walls of the uterus may be a source of post-partum hæmorrhage, or may become the seat of an inflammatory process, dangerous in itself, and extending dangerously to surrounding structures.

Their Pathological Nature and Anatomical Stat.

I do not require to detain you with any lengthened exposition of their pathological nature and their anatomical relations. Enough if I remind you that whatever their ultimate relations, they spring from the middle muscular wall of the uterus, with the elements of which the neoplasmic elements are homologous, so that they present, as their most constant and characteristic constituent, quantities of unstripped muscular fibres, largely rudimentary, though sometimes more developed, collected in twisted bundles among a dersely fibrous and granular connective tissue; and that, as regards their position in the walls, they may be found growing towards the serous surface (subperitoneal), or imbedded in the middle of the wall (intra-mural), or projecting towards the uterine cavity (submucous); and this relation of them to the thickness of the uterine parietes is a matter not merely

of anatomical interest, but of great clinical importance, both as regards the symptoms that arise and the line of treatment that may most hopefully be instituted.

Natural Terminations.

Let us glance for a little at the methods by which, in certain cases, the disappearance of these tumours is brought about under the efforts of nature.

1st. Fatty Degeneration.—There are few things more certain in pathology than that these myomata occasionally wither, in consequence of a process of fatty degeneration being set up in their constituent fibres. In cases where a gravid uterus has such a tumour in its walls, after the expulsion of the ovum whether prematurely or at full term, when the usual process of retrograde metamorphosis is set up in its proper muscular layers, the same process is set up in the homologous neoplasm imbedded among them; and as the uterine walls return to their normal pre gravid measurements, the tumour diminishes and may altogether disappear. Our vice-president, Dr. James Young, will recall such a case which I saw with him a few The patient had an easy enough labour, but a troubleyears ago. some third stage and some degree of post-partum hæmorrhage. When I saw her next day the uterus was felt with its fundus an inch or two below the level of the umbilicus, and a large firm equable mass could be easily manipulated through the relaxed abdominal wall, growing from the upper part of the anterior wall of the uterus, and reaching the size of a child's head into the right hypochondrium. This large fibroid mass became greatly reduced in size during the puerperal week, and when the patient passed from under Dr. Young's observation, it had diminished to the size of a hen's egg, and was lodged within the pelvic cavity. Two years ago I had under my own care and observation a primiparous lady, thirty-six years of age, in whom, from the fifth month and onwards, I had occasion from time to time to observe the presence of a fibroid tumour on the anterior aspect of the uterus. Through the abdominal walls it felt as if of the size of a walnut, and it projected very distinctly from the surface of the organ. Immediately after labour I could still feel it without any difficulty. During the puerperium it grew less with the lessening size of the uterus; and when the patient went to her home in the country, at the end of the two months, I could not any longer trace its presence. I saw her some eight months later, in the fifth or sixth months of her second pregnancy, and still the outline of the uterus was smooth; the tumour had melted completely away, and had never been reproduced. A third instance I may adduce from the history of a patient of whom I shall have more to say by-and-by, but who states that after a labour, when she was about thirty years of age, an irregular mass was detected by her medical attendant in connexion with the uterus, which she declares to have had the same consistence as a fibroid mass now growing from the same organ,

That tumour diminished and disappeared during her convalescence,

so that she ceased to be able to detect its presence.

That these tumours, which disappear in the walls of a puerperal uterus, melt down by a process of fatty degeneration and disintegration does not, to my mind, admit of a doubt. There is more room for discussion as to whether such a process occurs in them under other circumstances. The fibroid-infested uterus is an organ in which nutritional disturbance has already taken place, and is prone to be repeated. It is an organ, therefore, in which inflammation is apt to be set up, and in which the effects of chronic inflammatory processes in general, and this of fatty degeneration of structural elements in particular, are frequently to be observed. growth, of somewhat low vitality, as evidenced by its feeble vascularity, will be specially liable to such change. Hence, in the case of a patient who died under efforts made to relieve her of the symptoms resulting from a group of fibroids in the walls of the uterus, and in whom inflammatory action had been set up in the organ, I could see some of the unstriped muscular fibres taken from the fibroids containing fatty particles, and evidently in an early stage of fatty degeneration. More frequently I have seen such degeneration, and in a more marked degree, in sections of such tumours that had sloughed out or been expelled under strong uterine contractions. I see no reason, therefore, to doubt that a similar process of disintegration may go on in them more slowly but as effectually in cases where the inflammatory action does not run so high, or spread so widely, as to lead to the patient's death; or in which the tumour continues to be crushed up within the uterine parietes without being expelled through the genital canal. It could only be by a fortunate accident, as it were, that such a change could be seen under the microscope, for it is precisely in such a case that the patient passes from the care of the clinician to better hands than those of the pathological anatomist.

2nd. Calcareous Degeneration.—Another degenerative process to which they are occasionally liable is that which results in the diminution of their size and condensation of their structure along with a deposition of calcareous matter in their substance. This calcareous or osseous degeneration is most likely to occur in the fibroids of aged women. According to my experience, it is more frequent in the subperitoneal than the other varieties, though last session, through the kindness of Dr. Watson of Mid Calder, I had the opportunity of exhibiting here an illustration of such a process affecting a submucous fibroid, and to this preparation I shall refer more

particularly anon.

3rd. Pedunculation and Extrusion.—A third process by which nature sometimes gets rid of these neoplasms results from the physiological properties of the matrix in which they are developed. For the walls of the uterus have inherent in them a tendency to undergo a remarkable degree of development whenever any body

gets lodged within them; and when the muscular fibres have attained a certain degree of development, they manifest their physiological character by contractions sometimes tonic and continuous, at other times more energetic but intermittent. The effect of such contractions on a fibroid that is not purely intra-mural, is to force it towards the surface in the direction of least resistance. If they grow from the external plain of the muscular coat they are driven towards the serous surface so as to become more definitely subperitoneal. They may there finally become pediculated, and where the neck is narrow the mass may even become detached and be left free to move about in the peritoneal cavity. Some years ago I had in my ward a woman upwards of forty years of age, with such a roving body of the size of a hen's egg, that could be pushed about anywhere in the abdominal cavity; and the nature of it seemed to be certified by an absolutely similar body of the same firm consistence and slightly larger size, which still retained its attachment to the fundus uteri by a narrow pedicle. We are more familiar with those which are driven in the opposite direction. I do not know that there is anything to show or to lead us to suppose that the inner plane of the muscular fibres is a more frequent seat of their development. Probably it is rather owing to the circumstance that the tumours so situated are subjected to more forcible compression from being more completely embraced by the uterine parietes. But however this may be, it is far from uncommon to find them in the form of an intra-uterine fibrous polypus, sessile or attached to the interior of the organ by a longer or shorter neck, undergoing thus a process of slow extrusion; and in certain cases we meet them driven down under more energetic action of the uterus, and thrown off by this process of spontaneous expulsion. In such instances the tumour is driven on, covered with an investment from the uterine mucosa. But sometimes the mucous membrane on the surface sloughs off or ulcerates through, and the naked tumour is driven out of its bed and born by the process which has been termed spontaneous enucleation.

Their Treatment.

Let us turn now, if you please, to the consideration of the means we may adopt to imitate these natural processes or to expedite them

where they are in progress.

If I do not dwell on the influence of food in this class of cases, and more particularly on the influence of a strict animal diet as suggested by Cutter, it is simply because I have not gathered any experience for myself in this line of treatment. For the same reason—that I wish rather to deal now with methods of treatment of the value of which I have been able to satisfy myself—I pass over the treatment of uterine myomas by means of electricity, and proceed at once to the consideration of their

Medicinal Treatment.

Here I may at once frankly say that I know of no drug which on being introduced into the system finds its way to a uterine fibroid,

and acts in the way of a solvent on its strictures.

1st. Mineral Waters.—At the same time, I cannot doubt the powerful influence for good exerted by some of the mineral waters e.g., those of Kreuznach, the virtues of which were advocated here by Dr. Engelman last session—for I have seen patients who were suffering from such tumours in whom the symptoms were relieved, and in whom the growth of a previously increasing tumour was arrested, if the bulk was not immediately diminished. These mineral waters seem to me to exert some portion of their influence by acting as sedatives to the sexual organs, lessening the activity of the circulation in them, and so reducing the nutritional activity. One can understand how in this way the effects of the chronic inflammation going on in the organs may be removed and a check be given to the further increase of the neoplasm; how even, when the muscular walls of the uterus are disburdened of their inflammatory products they may quietly but continuously begin to take on their function, and contract so firmly around the growth as to favour its disintegration.

and. Bromide of Potassium and Chloride of Calcium.—A similar influence, it is at least highly probable, may be exerted by the bromide of potassium. This drug, which enters largely into the composition of some of these waters, has certainly a powerful sedative influence upon the generative organs; and though, as I have said, neither it nor any other can be regarded as a simple solvent of uterine myomata, I have a strong impression of its value in modifying the conditions that favour their development. But I have long ceased to trust to it alone in their medicinal treatment. some instances I have administered the chloride of calcium as recommended by Washington Atlee and Spencer Wells, but I have failed to meet a case where the progress of the tumour was sensibly affected by its use; and it is to be remembered that its prolonged administration is not a matter of indifference, as Wells has noticed the premature development of an arcus senilis in patients who were employing it. One of its expected advantages, indeed, is the deposition of calcareous salts among the tissues of the tumour or in the walls of its nutrient artery; but there is no means of controlling their deposition in the desired site, whereas in the case of the bromide of potassium, we have to do with a salt which, however it may act, does not lodge in the system, but is being constantly eliminated, so that I have had patients taking it for many months and even for a year or two without its producing any constitutional effect, if only they were careful to attend to the recommendation to suspend its use during the menstrual week.

3rd. Ergot of Rye.—But the drug that most powerfully and unmis-

takably affects the growth of fibroid tumours of the uterus is the ergot of rye. Its influence on the developed muscular fibres of the uterus naturally led to its employment in cases of fibroid tumours with hypertrophy of the surrounding walls; and the concurrent testimony of many gynecologists puts the action of ergot in the treatment of these growths among the best established phenomena of therapeutics. The preparation, for example, to which I have already referred as having been sent here for exhibition by Dr. Watson, was taken from the body of an unmarried female, aged fifty-two, whose case was brought under the notice of the London Obstetrical Society in 1871 by Dr. John Brunton. She had been the subject of a fibroid tumour which reached up as high as the umbilicus, but which disappeared in the course of six or seven months under the administration of full doses of ergot at each menstrual period. When the patient died last summer of disease altogether unconnected with the sexual system, and after she had ceased to suffer from any further hæmorrhages, there was found in the upper part of the uterus and growing from the fundus and anterior wall-as some of you saw-a condensed and partially calcified fibroid of the size of a small mandarin orange. For many years I have been in the habit of treating certain cases of uterine fibroids with ergot of rye during the menstrual period, and bromide of potassium in the intervals, and in many instances with good results. Rather more than a year ago, there came to my ward in the Infirmary here, a woman whom I had had under my care ten years ago in Glasgow, suffering from a fibroid which caused the uterus to rise like a fourth-month organ above the pubis. Under the treatment I have indicated, the tumour began distinctly to diminish in size, and as the patient became freed from her distress, I lost sight of her till she came back bringing with her her old prescriptions. She stated that she had kept well for three or four years, when she began again to suffer from her old symptoms and the reappearance of a tumour in the lower part of the abdomen. She had gone to live in a distant part of the Highlands, and allowed it to progress till now it filled the abdomen and reached a handbreadth above the umbilicus. On this occasion I kept her under treatment for nearly three months, administering every second day a hypodermic injection of two and a half grains of ergotin, with the result that a slight but very appreciable diminution occurred in the mass. She was obliged to go home sooner than I desired, but she left under promise to return if the tumour began to grow larger, or she began to suffer from any aggravation of her symptoms.

The narration of this case has led me into the statement of the method that I have found to be the most effectual for obtaining the full benefit of the drug. For it seems to me that the doubts as to its efficacy are traceable to one or other of three different causes: 1st, The use of an inert preparation of ergot; 2nd, An imperfect administration of it; 3rd, An inappropriate condition of the patient. As to the first, it is one of the commonplaces of obstetrical therapeutics

that quantities of inert preparations of ergot are in all the markets, and that much of the uncertainty as to the value of the drug is due to the employment of powders, extracts, and tinctures which are devoid

of all active properties.

Secondly, with regard to the mode of administration: while almost any preparation of a good ergot will give the desired effect, it was a step of immense importance in the satisfactory treatment of uterine fibroids when Professor Hildebrandt, of Königsberg, demonstrated the safety and certainty with which an active dose of ergotin could be administered hypodermically. He showed what my own experience, as well as that of Byford, of Chicago, and others, has amply confirmed, that the repeated subcutaneous injection of from two to five grains of ergotin can be counted on with great certainty to excite appreciable contractions in the walls of uteri in which the muscular fibres have become hypertrophied. The preparation of ergotin which I have found most satisfactory is the same which I brought under the notice of this Society in treating of the complete evacuation of the uterus after abortions.

R. Ergotinæ, 3ij. Aquæ, 3vj. Chloral-hydratis, 3ss. M.

Twelve drops of the solution or rather mixture—because the ergotin is partly dissolved and partly suspended—gives a dose of three grains, and this may be regarded as a medium dose, to be administered daily, or every second day, or twice a week after the

influence of the drug begins to be manifested.

In making this hypodermic injection, it is necessary to take care, 1st, that the fluid carry with it no small globules of air; and, 2nd, that the point of the syringe be carried deeply down through the skin and areolar tissue, right into the muscular strata. Sometimes the injection may be made in the abdominal walls; in most cases they are borne best in the gluteal regions. I cannot understand how the practice has crept into our hospitals, but I observe that when students are called to make such an injection, they pinch up the skin and push the point of the needle obliquely through, and occasionally to some distance among the cellular tissue beneath the skin. Now the pinching up of the skin may do good, and serve to make the surface somewhat tense; but the needle should certainly always be carried in as perpendicularly to the surface as possible, and straight down with one quick stroke into the muscular tissues. Such a preparation, so introduced, is not liable to be attended with the suppurations which have deterred some practitioners from the continuance of this mode of administration. It is but rarely even that the patients complain of the pain. I can only recall two out of the many patients in whom I have used it, who objected to the frequent repetition of the injection on the score of the local suffering. may be made daily, or every second day, for several weeks; or after some frequent injections for a month, they may be continued once or twice a week for many months without producing any constitutional disturbance.

Cardiac disease does not constitute a contra-indication to its employment. At least one patient, to whose case I have already referred as having got rid of some fibroid mass during a puerperium, was commended to my care chiefly because of the distress she suffered from a cardiac affection. I found, indeed, that she had well-marked valvular disease of the heart; but it seemed to me that her distress was largely due to the presence of a group of fibroid tumours, some of which were subperitoneal, but one at least was intra-mural or submucous, and associated with pretty free menstrual discharge. The subcutaneous injections were freely carried out in this case without the faintest drawback, and with the result of a lessening of the menorrhagia and a diminution in the bulk of the lower portion of the general mass, along with great improvement in the patient's general health. Again, I have used the ergotin hypodermically in the case of a patient who is the subject of chronic asthma and bronchitis with nothing but satisfactory results.

But there remains the third point as to the appropriate cases. believe Hildebrandt has correctly indicated the condition most favourable for the use of ergotin in stating that the tumour must be intra-mural or submucous; in other words, it must be surrounded by layers of muscular fibre, sufficiently developed to be capable of being excited to contraction, and sufficiently powerful to exert some degree of pressure upon the body in their embrace. For the beneficial action of the drug in such cases depends upon its property of stirring and keeping up continuous contraction in the unstriped muscular fibres of the uterus, the effect of which is, in some cases, to push the compressed tumour more rapidly towards the uterine orifice, and so to favour its extrusion from the cavity; in others, so to interfere with its nutrition that it ceases to grow, or even begins to wither, probably in consequence of fatty degeneration being set up in its fibres. The ergotin perhaps exerts a secondary influence in the direction of cutting off the nutritive supply of these bodies by tending to cause contraction in the walls of the uterine arteries, and so lessening their calibre. Such an influence is not to be denied, and although it is altogether subsidiary towards the elimination of these fibroid tumours, it makes the employment of the drug very serviceable for the alleviation of one of their commonest symptoms—viz., the excessive loss of blood.

Sometimes, I have said, the hypodermic injection leads to the rapid extrusion of the tumour. This occurred in the case of a poor woman whom I saw with Dr. Balfour, of Portobello, and who came into my ward to be treated. She had long suffered from pelvic pains and uterine hæmorrhages, and had got into the habit of taking opium freely and frequently. The fundus uteri reached more than half way between pubes and umbilicus, and the sound passed four inches into the uterine cavity. There was a degree of tympanitis and

abdominal tenderness that necessitated the administration of chloroform to enable us to make a satisfactory examination. Under the use of the hypodermic injections of ergotin the discharge at first diminished, then a fetid discharge began to escape. Frequent examinations even with the finger pained the patient, who was a virgin, aged forty-eight; but after two months' almost daily use of the injections, a sloughy mass was found to have been expelled into the vaginal canal, which was detached from the uterus by means of the écraseur. It was so soft and pulpy that I thought at first the diagnosis as to the nature of the tumour must have been incorrect; but on more careful examination it was found to be a fibro-myoma in a gangrenous condition, many of its fibres breaking down, and some of them crowded with fatty particles. The patient recovered health to a great degree, notwithstanding that she had an attack of pleurisy before she left the Infirmary, and the tympanitic state of the abdomen never disappeared.

In other cases, where the tumour has not been expelled, it has become reduced in size. Two years ago I saw, with Dr. Cullen, of Airdrie, an unmarried lady, thirty-five years of age, who had become very anæmic from excessive losses of blood. She had an intra-mural fibroid of the size of a child's head. The hypodermic injections were carried out at somewhat lengthened intervals, but kept up for many months, by a sister, as they lived at some distance from their doctor; and when the patient came to see me last spring her discharges were less profuse, her tumour much reduced in size, and her general health greatly improved. I might make almost the same remarks regarding a very similar case which I saw some nine months ago with Dr. Peter Stewart, of Glasgow; only the tumour in this case was originally larger and more irregular, and wedged more firmly into the pelvis, and the diminution in size is not yet so pronounced. In a note which I had the other day from Dr. Stewart, he tells me he is using the ergotin

in another case of fibroids with promising results.

In certain cases the beneficial action begins to make itself sensible to the patient by relief of her symptoms before there is any distinctly appreciable reduction in size of the mass. Moderation of the often exhausting hæmorrhages is a frequent observation. But sometimes other symptoms thus soon get relief. A lady, for example, who was sent to me by Dr. Leith, of Comrie, in addition to the weakness caused by menorrhagia, was suffering from symptoms of pressure on the bladder. The uterus, occupied by a fibroid tumour, was about the size of a large fist, movable, and with a patulous cervix. administered an ergotin injection, and advised its repetition two or three times a week. In six weeks the patient returned, having experienced great relief from her pressure symptoms, and gathering strength as she had had less loss of blood. Still I could not satisfy myself that the uterus felt much lessened in bulk. After the continued use of the injections, made chiefly by the patient's husband for two months longer, the diminution in the size of the uterus was

very perceptible, and the patient's general condition was still improving.

In two instances of unmarried ladies where the tumours were subperitoneal, but where there was considerable enlargement of the uterus, and a degree of menorrhagia that would itself have constituted an indication for the use of ergot, I have observed that under the ergotin injections the tumours, without sensibly decreasing in size, became, in the course, in one, of three, in the other, of five months,

more superficial.

Lastly, I have noticed that in several instances, where the tumour was of large size and where the ergotin-injection treatment has been instituted, a growth, which up till that time had been steadily increasing in size, has had such an arrest laid upon it that it ceased to enlarge. Two ladies, both unmarried, whose history is illustrative of this occurrence, are at this moment in my mind. In one, I had the opportunity of witnessing and watching the slow but steady growth of a fibroid during several years, despite the use of the Kreuznach waters, bromide of potassium, chloride of calcium, and internal administration of ergot. Since, about eighteen or twenty months ago, however, she had a series of ergotin injections carried out for some two months, there has been no increase in her girth, though her general health is better, and her limbs are stouter. In that case, the period of life may have favourably influenced the condition, as she ceased to menstruate a few months after she had begun this treatment. But in the other case, the patient is still only thirty-five, and though menstruation goes on regularly the flow is less, and there has been no increase in her abdominal measurements since more than a year ago she first began to use ergotin injections.

Gentlemen, I might multiply the histories of patients suffering from fibroid tumours of the uterus, whom I have seen benefited by the adoption of Hildebrand's treatment; but I fear I have already taxed your patience. In view of the doubts that are still expressed in some quarters, however, I feel that it is quite worth while to have adduced these illustrative cases, which I hope will help to convince you, as they have convinced me, that the hypodermic injection of ergotin is a thereapeutic agency of the first importance in the treatment of fibroid tumours of the uterus; and that where we find such a tumour causing much hæmorrhage, seated in a uterus with a patulous cervical canal, and surrounded by some layers of well-developed muscular fibres, we may have recourse to its employment with a well-grounded expectation of seeing the symptoms relieved and the tumour greatly reduced in size, or it may be expelled altogether, or at least brought

more speedily within the sphere of

Surgical Treatment.

If I may now ask your attention to the operative measures to be employed for the removal of fibroids, I shall again leave out of consideration some important proceedings, such as the producing of a slough, and so procuring the disintegration of the growths, as proposed and practised by Dr. Greenhalgh, with the actual cautery, and the extirpation of the uterus or portions of it through an opening made in the abdominal walls—an operation which has now been pretty frequently performed, which I have myself witnessed at the hands of two different operators, and which doubtless has a triumphant future before it. I wish to speak rather, and that very briefly, of the operations that will always be applicable to an immensely larger number of cases, where we have to do with tumours not so imposing in their size, but important from the frequency of their occurrence, and the urgent call they often make on operative skill.

1st, Torsion.—The first method that I always think of employing for the removal of an intra-uterine fibroid to which I have got access, is the simple twisting of it so as to loosen it from its attachments. Whether it be pediculated or sessile, large or small, as soon as it can be firmly grasped with the fingers or with a vulsellum or pair of abortion forceps, it should be twisted steadily and firmly round and round in the same direction until its attachments are felt to yield. astonishing sometimes with how friable a neck even a large fibroid still hangs to the uterus, and with how loose a base a broadly sessile one may be imbedded in the wall. The bleeding that takes place in such cases is but little, and soon comes to an end. I have seen a fibromyomatous tumour passing from the uterus into the vaginal canal of such large size as to baffle all attempts to reach its base or pedicle even when the forefingers of the hand were pressed into the cavity, and yet the pedicle gave way when the great mass had been rotated several times in one direction. A considerable gush of blood took place at the moment that it was felt to be set free, but no further escape took place during the two hours and more that I spent in breaking down and extracting the growth throughout the narrow

2nd, Cutting, Crushing, or Scratching.—When the pedicle or base will not yield under torsion, they must be divided by some cutting, crushing, or scratching instrument. The cases are now pretty numerous in which I have removed such bodies with the polyptome. For its satisfactory employment, however, the tumour must have a distinct and rather narrow neck, and in any case it is apt to cut obliquely and may leave a fragment behind. This, of course, usually atrophies; still one would rather have a smooth surface left. In one or two cases where the pedicle was more easily accessible from below I have divided it with scissors.

In several, where I apprehended hæmorrhage, I have used the écraseur, and always take the instrument to any case of removal of a fibroid. It is not always easy of application, however, and occasionally when it is at work dividing a fibroid of firm texture, it disappoints you by giving way.

I fancy most gynecologists who have had much to do with such cases have sometimes felt the want of an instrument for working their

way through the pedicle or base of these bodies. So one reads in the histories of the use of the point of a bistoury, the blade of which is wrapped in lint; or the handle of a scalpel or such like. I see from the number of the American Fournal of Obstetrics that has just come to hand, that Professor Gaillard Thomas showed to the New York Obstetrical Society an instrument which he uses for cutting through the base of sessile fibroids. It resembles a spoon on a long handle not unlike one of Simon's curettes, only the edges, instead of being simply sharp, are toothed or serrated, so as to more easily cut through the tissues, and it seems well adapted for its object.

In removing these bodies, I have sometimes been able to make my way deeply through the base with the nail of the forefinger alone. But there always meet one some strands of fibre that are too tough to be thus torn through, and besides the nail bathed in the blood begins to soften, till one wishes that it were made for a little of steel. After trying curettes of various kinds, I have come for the last eighteen months or so to make use of the instrument which I now show you, and which I find immensely serviceable in the digging out of fibroids and other new growths in the uterus. The flat sharp point serves as a substitute for the nail, the edge of which it resembles in size; the slightly curved stem is long enough to be easily carried up to the fundus uteri, and so slender as not to occupy much space in the canal; the handle is broad and square, to give a good hold and purchase in the working of it, and roughened on all sides except on the surface towards which the sharp edge of the instrument is directed. When it is being used, the tumour is sometimes dragged down with a volsellum by an assistant, particularly when it is very mobile. other times I have used it where the uterus was simply steadied by pressure from above the pubes. The point is guided to the root of the tumour by the index finger of the right hand, which closely follows it in its track through the severed tissues, the handle being worked all the while by the left hand. It is thus an instrument of extreme simplicity and as safe in its working as the nail of the finger, for which it is a substitute.

One of the patients, in whom I first employed it, had a history which presents several points of unusual interest. She was a widow lady, sixty years of age, who brought me a letter from Dr. Mackenzie, of Kelso, stating that she was the subject of a pelvic tumour; that she had been operated on by Sir James Simpson ten years previously for some uterine affection, probably a polypus; that she had at that period been for some time in a lunatic asylum, and that again she was becoming the subject of mental derangement. The mental malady was clear enough. The old lady was under the constant apprehension that something was to happen to her, and she would pass an hour at a time in screaming out. But she attributed all the distress herself to the swelling, which was very perceptible in the lower part of the abdomen, reaching up to within two inches of the umbilicus. This was found to be the uterus enlarged with what I took to be, from its

firm consistence, the vascular bruit, and other characteristics, an intra-uterine fibroid. She was extremely anxious to have the tumour cut out. This I did not feel warranted in undertaking to do; but as the case seemed a fair one for the hypodermic injections of ergotin, I commenced their use every second day. During six weeks that I had her under treatment here, I could perceive that the drug was exerting an influence; the tumour began to sink in the abdomen; the os uteri began to expand; her mental condition improved slightly, and she went home. For some weeks, by some mistake, atropin injections were administered instead of ergotin. By-and-by, the mental symptoms getting more urgent, she was put under the care of Dr. Tuke in the Saughton Asylum, where again I had the opportunity of watching the progress of the case. Dr. Tuke's assistant, Dr. Bower, carried out the injections very carefully for a few weeks till the expansion of the os and the descent of the tumour had so far progressed as to render the interior of the uterus easily accessible to the exploring fingers. Partly from the deterioration of the system from imperfect nourishment—for she made a difficulty about her feeding—and still more from the drain that for some months had been taking place from the uterus, the patient had become very feeble, so much so that Dr. Mackenzie had great doubts as to the propriety of attempting the removal of the growth. It was attached to the fundus and posterior wall of the uterus over a widely extended surface; and I was disappointed to find that it was not simply imbedded and encapsuled, but closely incorporated at some parts with the muscular coat. It was out of the question to apply an écraseur, the mass could not be twisted out, and I do not know how I could have got it detached from its place but for the help of the nail-like curette. By having it dragged upon with a strong volsellum by my friend, Dr. Horatio R. Storer, of Boston, who was present, and by patient determined scratching through of all resistent textures, it was severed from the uterus and removed. Seeing that there was such an intimate union of it with the uterine walls, I was not surprised to find that the mass. though mainly myomatous in structure, presented at some points sarcomatous elements. The patient rallied from the operation and recovered her strength to a very remarkable degree. As I had anticipated, however, from the anatomical structure of the tissues, the tumour was reproduced. From time to time sloughy masses were expelled, which presented a purely sarcomatous character, and some twelve months after the date of the operation the patient died under an excessive loss of blood.

I had intended to cite some other cases of a more ordinary character where this instrument has stood me in good stead, but I forbear. Nor do I dare to prolong this address by bringing before you, as it was in my mind to do, some observations on the enucleation of fibroids, or the incision of their mucous covering, or the division of the cervix uteri. The first of these operations I regard as not only justifiable, but sometimes as clearly called for. The

second and the third are sometimes required as preliminary steps to the first; but apart from this, sometimes they have approved themselves as valuable procedures in checking the hæmorrhage and favouring the spontaneous expulsion of the tumour. On some other occasion I may have an opportunity of treating of these operations. Meantime I close,

I cannot sit down, however, in the chair which I fill for the last time to-night, without thanking you once again for the unanimous kindness which raised me to such an honourable seat, and for the unvarying courtesy which has rendered my two years' incumbency a

period of unalloyed delight.

Dr. T. A. G. Balfour moved a cordial vote of thanks to the President for his able, lucid, and exhaustive address, remarking on the practical and valuable character of the paper. His only regret was that Professor Simpson's term of office as President now expired.

Dr. Young seconded the proposal with great pleasure. The Society having cordially and unanimously sustained the proposal,

Professor SIMPSON briefly thanked the Fellows for the reception accorded to his address. The Society then proceeded to private business.

Meeting, Wednesday, 28th November 1877. Dr. David Wilson, President, in the Chair.

The following office-bearers were elected:—President, Dr. David Wilson; Vice-Presidents, Dr. Peel Ritchie, Dr. Angus Macdonald; Treasurer, Dr. Craig; Secretaries, Dr. Charles E. Underhill, Dr. James Carmichael; Librarian, Mr. Jamieson; Members of Council, the office-bearers and Drs. Cappie, Simpson, and T. A. G. Balfour.

Dr. Bruce exhibited a preparation of supernumerary fingers.

Dr. Peel Ritchie showed a mucous polypus of the rectum, which he had removed from a patient. A similar polypus he had removed from the same patient, and showed to the society on a former occasion. The child from whom this polypus was removed was a female three years and nine months old. Bleeding had been present after action of the bowels for nine months. The child, when one year and eight months old, suffered in a similar way, and was relieved by the removal of a polypus the size of a cherry. The bleeding at this time continued for a week or two, and ceased when the polypus was removed. The child remained well for one year and three months, and then bleeding from the polypus shown commenced.

Dr. Halliday Croom exhibited a set of Professor Simon's urethral dilators, which he had found of great service in dilating the urethra, so as to admit the finger into the bladder in cases of cystitis and incontinence of urine. One case of this nature had been cured by the treatment; a second case was still under

observation.

Dr. Halliday Croom also exhibited a preparation of a fœtus which had died twelve days post-partum from imperforate anus. The case, which had been under treatment by another medical man, would have been a favourable one for puncture, as the rectum ended in a *cul-de-sac* behind the bladder, and an opening could with readiness have been made.

Professor SIMPSON then read for Dr. Hamilton, of Hawick, the following case of sudden prolapse of the gravid uterus:—" I was consulted on the 1st of July by Mrs. O., twenty-four years of age, married, pregnant four months, complaining of a swelling of the right labium pudendi, of pain in the back, and of difficulty of sitting or walking. The swelling she had noticed coming gradually for about ten days; at first she felt the part hot, and on walking, slight stiffness, which had gradually increased. The skin was hot, pulse 100; tongue furred; the bowels had been constipated. On examination the labium was swollen to the size of a goose's egg, red, ædematous, and painful to the touch. No fluctuation could be detected. ordered opening medicine, rest, and light diet. Professor Simpson I consulted by letter at the time. Two days afterwards fluctuation could be felt, poultices were applied, and the following day the abscess had burst through the vaginal wall. The opening I slightly enlarged, and the part healed rapidly. About ten days after the opening of the abscess (at which time she thought herself perfectly recovered), when lifting a bucket of water, she felt a sudden pain in the back, which compelled her to take to bed. She was able to get up the following morning, but when up she again felt a swelling which she thought similar to the previous one, but without pain in the part. I was then again sent for. She was now complaining of a severe dragging pain across the loins, and of inability to sit, owing to the swelling. She had suffered during the night from vomiting, and had great difficulty in making water. She had a quick pulse, but no increase in temperature. I found on examination that there had been complete descent of the womb, the cervix distinctly protruding, and the vaginal mucous membrane everted. I attempted replacement in various ways, but without effect. She was kept in bed and soothing medicines given. On the 5th day labour pains set in. I was sent for shortly after they were felt. On my arrival I found the os dilated to admit one finger; in so doing I felt the membrane. I stuffed the cervical canal with a sponge, which I secured by a bandage coming between the legs and over the os, attached at each end to a binder round the abdomen. Four hours afterwards the os was dilated sufficiently to admit two fingers. I was then able to grasp a foot of the fœtus, after rupturing the membranes and removing with the placenta. There was little hæmorrhage. I then easily replaced the uterus. This patient made a very good recovery. She was confined to bed only twelve days, and since getting up there has been no tendency to prolapse. The prolapse arose apparently in this case from the weak state of the vaginal wall after the abscess.

N.B. 4th Sept.—There is no prolapse, and the subject of the above notes in in excellent health.

Professor SIMPSON remarked on the rarity of the case. While elongation and hypertrophy of the cervix with descent was not uncommon, prolapse of the entire organ was comparatively of rare occurrence in the impregnated female. At least, descent of the gravid uterus, causing such an amount of distress as to bring the patient under the care of a physician, was rare; because as pregnancy advanced the uterus usually ascended above the brim of the pelvis. In most of these cases the patient had suffered from prolapse before conception occurred. The only case of that kind which he remembered to have seen where the uterus remained partly protruded ended in a miscarriage between the sixth and seventh month. He had never met with a case where the gravid uterus had been suddenly prolapsed, as in Dr. Hamilton's patient. He had that morning seen an instance of what was sometimes mistaken for prolapse of the gravid uterus, in a patient who came complaining of falling down of the womb; but in this case the fundus of the three months' pregnant uterus was at the level of the brim of the pelvis, while the protrusion was formed simply of the hypertrophied and elongated cervix.

The President thought the case a very interesting one, and thanked Dr. Hamilton for having brought it before the Society.

Mr. Macdonald had little or no experience of such cases. In a patient he was attending at present, he believed prolapse would have occurred had he not re-introduced a Hodge's pessary, which had been previously worn by the patient until between the third and fourth month, when considerable prolapse occurred. Hypertrophy of the vaginal portion of the cervix, although not uncommon in non-pregnant women, was somewhat rare during pregnancy. He had lately met with a case in which hypertrophy was chiefly limited to the median portion of the cervix. This patient had become pregnant.

Dr. Underhill had very early in his practice met with one case of sudden prolapse of the gravid uterus in the third month of pregnancy, in a patient forty years of age, who had been long married, and only had one child twenty years previously. The uterus was returned immediately. Pregnancy was not suspected, as there were many symptoms which seemed entirely to negative it. A sound was passed, and a week later the patient aborted. The cervix was found at this time to be more than four inches in length. In a case at present under his care, the patient, a virgin, suffered from prolapse. He was consulted with a view to marriage. Having got married, the patient became pregnant, and it was found necessary to use a disc and stem pessary during the day, the instrument being removed at night up to the middle of the sixth month. He should like to know the opinion of any of the Fellows as to how long in these cases the pessary ought to be worn.

Obstetric Summary.

A Case of Extra-Uterine Fætation.

In a paper published in the France Médicale M. Weiss relates a case of extra-uterine fœtation, which had a fortunate termination after expulsion of the fœtus per rectum. The patient was forty years old. and was admitted, on May 31st, 1877, to the Hôpital Lariboisière, under the care of M. Proust. She had had a normal pregnancy at the age of twenty-five, and had enjoyed good health since that time. In May, 1876, she began to suffer from slight abdominal pain, but general health was not much disturbed, and menstruation continued regular. About the end of 1876 she was attacked, without appreciable cause, by a metrorrhagia, which continued without cessation until February, 1877, but was not severe enough to oblige her to keep her At the end of this metrorrhagia there was a cessation of menstruation for between two and three months until the end of April, when severe abdominal pain came on, accompanied by a serosanguineous discharge. She was able, however, to attend to her work, and came on foot to the hospital.

In the hypogastrium was found a hard irregular tumour, reaching about three fingers' breadths above the pubes, and tender on pressure. It did not occupy exactly the median line, but was inclined to the right, and appeared quite independent of the uterus, which lay in front. Vaginal touch revealed the existence of a retro-uterine tumour, irregular and made up of hard and of soft portions, rather tender on pressure. The uterus was pushed forwards against the pubes; the cervix was not patulous nor altered in consistence. The limits of the tumour could not be reached *per rectum*. There was scarcely any fever, and no rigors or vomiting. The diagnosis made was that of retro-uterine hæmatocele, as being the most probable condition. The idea of extra-uterine fœtation was not even suggested.

The patient continued in fair condition until June 10th, when some pus was discharged by the rectum, and the same discharge continued on successive days, but in small quantity. On June 15th she had the sensation of some foreign body in the rectum, and a mass was found to be presenting at the anus, which proved to be the leg of a Slight traction detached it from the rest of the body, which was engaged in the rectum. On that and the following day the rest of the fœtus was extracted, with the exception of the head, which could not be discovered. It was putrified, and extremely feetid; its size appeared to correspond to an age of between four and five months. Immediately after the extraction, an opening into the fœtal cyst was felt, large enough to admit the finger, but too far from the anus to allow the cavity to be explored. The abdominal tumour had completely disappeared, as also had the retro-uterine tumour. Disinfectant injections into the cyst, by means of a tube passed through the fistulous opening, were employed, and the patient rapidly became convalescent.

The author remarks on the difficulty of diagnosis in this case, no definite signs of pregnancy having existed, and especially on the absence of any change in the consistency of the cervix, a sign rarely absent in such cases. He considers that the pregnancy probably commenced in December, 1876, at the time when the metrorrhagia began, and that the fœtus died at the commencement of May, when the severe abdominal pain came on. The fortunate issue of the case he attributes to the small size of the fœtus, which allowed it to be extracted through the rectum without any great difficulty; the general mortality in cases so terminating being, according to Parry's statistics, as high as thirty-five per cent., as against twenty-five per cent in those in which evacuation takes place through the abdominal wall.

Gynæcic Summary.

Transfusion Performed on Account of Uterine Hæmorrhage in a Girl of Thirteen.

In a paper read before the Medical Society of Rheims, M. Leroy relates a successful case of transfusion, performed upon a patient under the care of Dr. Strapart. The patient was thirteen years old, and menstruation had first appeared in July, 1876, lasting two or three days. It did not recur till September, when it lasted eight days. The period recurred again in October, and, when it had already continued two days, severe abdominal pain came on, with more profuse loss. From this day clots began to be passed, and at length, after twenty-one days of profuse hæmorrhage, the child was brought by her parents to the hospital, on November 23rd. She was then excessively pale, the pulse very rapid, thready, and irregular, respiration slow, skin covered with sweat. An anæmic bruit was heard over the heart. She was treated by ice upon the abdomen, and ergot internally, with cold enemata; but the hæmorrhage rather increased in quantity. Quinine and perchloride of iron were then given, and a temporary improvement followed, the amount of loss diminishing, but not entirely ceasing, up to December 13th. On the 14th of December, apparently with the commencement of a menstrual period, profuse loss recommenced, clots being frequently expelled. Uncontrollable vomiting then came on, and all nourishment was rejected. On the 17th her complexion was cadaveric, the skin was cold, the voice inaudible, and the pulse could no longer be felt. A consultation was held with Drs. Henri and Adolphe Henrot, and Langlet, and it was decided to transfuse immediately. operation was performed by Dr. Henri Henrot, the father furnishing the blood. The apparatus of M. Mathieu was used, the blood not being defibrinated. The quantity employed was 170 grammes. only difficulty met with was that of finding a vein large enough to admit the canula, all the vessels being collapsed; but this was easily

overcome. The patient rapidly revived during the operation, and, immediately after it, a considerable number of clots was expelled from the vagina. The blood, examined by the microscope after the operation, showed an enormous difference as regards the number of corpuscles from that which had been examined before. A short time after its conclusion, the feeling of warmth at first felt gave place to shivering, and extreme thirst succeeded. Two hours later the pupils, which had been widely dilated, became closely contracted, and this condition continued for four or five hours. The following morning the pulse was 145; the hæmorrhage was insignificant and the sickness less frequent. Some febrile disturbance followed, the temperature rising to 38°·7 C., but the patient gradually became convalescent, and no more serious hæmorrhage occurred. She left the hospital on January 28th in fair condition, although still very pale.—Archives de Tocologies, December, 1877.

Death from Rupture of a Cyst of the Broad Ligament.

In a paper read before the Philadelphia Obstetrical Society, Dr. W. H. Parish records a case in which rupture of a cyst of the broad ligament occurred, and proved very rapidly fatal. The patient was sixty-two years old. Five years previously enlargement of the abdomen had first been noticed, but she had been able to walk about without manifesting discomfort or pain. The enlargement at first was most evident to the left of the median line, but a few months prior to death it extended over the abdomen generally. On the morning of her death, on attempting to get on her feet from the bed, she experienced a sharp pain in the abdomen. Soon syncope came on, and death from shock occurred within two hours after the

occurrence of the pain.

At the autopsy, extreme procidentia uteri was found. The abdomen was greatly enlarged, with the shape and physical signs of ascites. On opening the abdominal cavity, about three gallons of a limpid slightly reddish fluid escaped. A small quantity of pus was found in the posterior portion of the abdominal cavity. A large cyst, capable of containing about three gallons of fluid, was found in a state of collapse. Near its summit, in the postero-lateral wall, was an opening large enough to admit with ease three fingers. Around this opening the cyst-wall was much attenuated, and was covered externally with pus and lymph. The cyst-walls generally were about a quarter of an inch in thickness, and of a deep lilac mottled appearance on the peritoneal surface. The cyst was monolocular, without any ascertainable remains of septa, and there were no peritoneal adhesions, excepting at its extreme lower portion. Near the lower part was a sacculated condition, where the walls had undergone an extreme degree of attenuation without indications of ulceration, the attenuation being apparently due to distension only.

The pedicle was about the width of four fingers, and seemed to

spring from either the left broad ligament in the region of the organ of Rosenmuller, or from the external portion of the hilum of the ovary. The left ovary was elongated, and diminished in size in its other diameters. It contained a small cyst about the size of a split pea with translucent fluid contents. The left Fallopian tube measured twenty-two inches in length, and extended over the upper and posterior portion of the cyst. It was in the wall itself of the cyst. The ampulla was greatly enlarged, admitting a good sized bougie for ten inches. The tubo-ovarian fimbria was also a part of the cyst-wall, and measured eighteen inches. The peritoneum was easily separable from the cyst. The uterine appendages of the right half of the pelvis presented nothing abnormal, excepting that the different ligaments were lengthened by stretching. Thus, although a pedicle existed, the characteristics of the cyst corresponded to those usual in a parovarian cyst in the following particulars: the limpid character of the fluid, the easy dissection of the peritoneum from the tumour, the great elongation of the Fallopian tube, and the tubo-ovarian fimbria, and the encircling of the cyst by these two structures, and also the unilocular character of the cyst.—American Fournal of Obstetrics.

The Pathology of Cauliflower Excrescence of the Cervix Uteri.

Dr. Beigel reviews the opinions of the various authors who have written upon cauliflower excrescence, and gives the histological details of a case which illustrates its pathology. Under this term, first introduced by Dr. John Clarke in 1809, has been understood by most writers a papillary growth, readily bleeding, and so soft, that after its removal, or the death of the patient, nothing remains but a brokendown pulpy mass, like macerated placenta. Many have regarded it as a tumour of special nature, distinct from cancer, and not necessarily malignant. Gooch, Hooper, Davis, and Ashwell, however, regarded it as cancer, and Walshe brought forward a series of instances, in which during life all the symptoms of cauliflower growth were present, after death only a pulpy brain-like mass remained, while the uterus was found, on microscopic examination, to be infiltrated with cancer. The opinion of Virchow was that, as far as regards its superficial layers, it does not differ from other warty or papillary growths on skins or mucous membrane, which may be included under the term papilloma. It differs, however, he considered, from these in the fact that it is not, as they are, absolutely free from metastatic recurrence after removal, and that, as a heteroplastic growth, it has always a certain degree of malignancy. He insisted also on the fact that the tendency to form villi, or warts, or papillary projections, often depends simply on the superficial situation of a tumour, and that warty or papillary excrescences may grow from connective-tissue tumours (fibromata), while again some cancerous or cancroid growths take on the cauliflower-like form, and others do not. Virchow was also of opinion that cauliflower excrescence of the cervix might begin

as a simple papillary growth, and afterwards take on the character of cancroid, a view likewise maintained by Hégar. Paget held that some cauliflower excrescences belong to epithelioma, and some to medullary carcinoma, while others perhaps may be simple warty or

papillary growths, not of a malignant character.

The author himself once removed a very perfect cauliflower excrescence of the cervix, of the size of a goose's egg, in which the papillæ were simply composed of cellular tissue, and no cancerous or cancroid elements whatever could be discovered. He now brings forward two cases of growths, both having exactly the outward characters of cauliflower excrescence, in order to illustrate the essential difference of structure which may exist in such tumours. The first grew from the peritoneal surface of the pouch of Douglass. It consisted of a branching growth of cellular tissue, ramifying into delicate villi, which partly hung free, clothed with a layer of cylindrical epithelium, and partly united so as to inclose spaces, also lined by a distinct layer of cylindrical epithelium. The second was a growth from the cervix uteri. The patient was a multipara, thirty-five years old, who had always been healthy. Her attention had only been attracted to any abnormal condition four months before, through the occurrence of profuse secretion from the vagina; but on examination a cauliflower growth was found, already of the size of a fist. A few days after it was removed by the écraseur, and the cut surface afterwards scraped with the sharp spoon. Up to about a year afterwards, the date of the report, there was no sign of recurrence. The surface of the growth consisted of papillæ, the youngest being minute, the more developed of a branching character, the size of the papillæ varying from the most minute possible up to the size of a pea. On making a section, the deeper layers appeared to be divided by partitions, so that the whole resembled a number of peas compressed together in a box. The author considers that this appearance resulted from the union of a number of papillæ by their outer surfaces, and that it is probably a general character of such growths, and may explain their extreme friability. The centres of many of the apparently united papillæ had spots of softening. The supply of vessels was but sparing, which corresponded with the fact that the patient had not suffered from any vaginal hæmorrhage.

A section of one of the larger papillæ showed large masses of cells, mostly giant cells, containing several nuclei, arranged in alveoli, formed by a fibrous stroma, in some places very delicate, in others more dense. It had thus rather the structure of true carcinoma than of what is understood in England by the name of epithelioma, although the author speaks of it as being a typical epithelial cancer. Epithelioma he appears to distinguish under the name of cancroid. In sections of some of the papillæ was a central empty space, formed by breaking down of the tissue. The cells became gradually larger towards the periphery, and in this situation were some smaller vacuoles containing granules, apparently each the result of the disinte-

gration of an enormous cell. With reference to the occurrence of giant cells, the author remarks that they have been found in papilloma, in sarcoma, in the marrow of normal bones, in the lymph-glands in cases of tuberculosis, as well as in enchondroma, epulis, and other tumours, while some have regarded them as essential to the definition of tubercle. He concludes that they may arise from different sources, and in the most various regions of the body, and that the degeneration of normal into giant cells is favoured whenever there is a rapid formation or rapid disintegration of tissue, or both together. In his own case he considers that the giant cells had a definite cell-wall, since some of them appeared to have burst. Virchow's Archiv, B. lxvi.

The Combined Application of the Electrolytic and Electro-caustic Effect of the Battery in the Treatment of Cancer.

In a paper read before the Obstetrical Society of New York, Dr. Noeggerath describes a new method of employing the galvanic current for the destruction of cancerous growths in the cervix uteri. He has ceased to regard the fact that infiltration is recognised as passing beyond the vaginal insertion as an indication against the performance of an operation, but has abandoned such a principle in those cases in which there is a very rapid development of the growth, or profuse and frequent hæmorrhage. He controverts also the opinion, held by some of the prominent gynæcologists of the present day, that in those cases in which we fail to destroy the entire area of the disease, the irritation consequent upon the process of cauterisation is apt to hasten the fatal issue. On the contrary, he has seen that the direct effect of the cauterisation was cessation of pain previously existing, and checking of hæmorrhages for a long time afterwards, thus preventing too rapid wasting from these two sources at least.

In the use of the ordinary galvano-cautery the author has found certain difficulties in attaining the object of carrying the heat far into the tissues, and concentrating it upon a small surface, so as to guard the neighbouring healthy tissues. The cauteries, if heated even by the most powerful batteries, could not be pushed into the tissues beyond a certain depth, because the eschar itself prevented their further progress, and because the instrument lost its heat while it penetrated through the moist tissues. Enough radiating heat, moreover, was developed by the instrument to make its application dangerous to neighbouring organs. Again, if a platinum wire, bent upon itself in such a way as to resemble somewhat a needle in shape, were used, it became cooled at the apex and overheated at the centre, and so bent upon itself and cauterised parts which should have been kept uninjured. Upon experimenting further, Dr. Noeggerath found that he could heat sufficiently for all purposes the points of two long platinum needles by using the interrupted current of the platinum-zinc battery now generally used for cauterising purposes, attaching one needle to each pole, and bringing the points into contact. The interruption of the current was simply effected by rubbing the points one over the other, the inequalities of the roughly polished surface being sufficient to open and close the current. The heat developed thus instanter is found to lose very little of its intensity even in cold water, and can be kept up in the depth of moist tissues any desired length of time. In attempting, however, to introduce these long slender needles into the tissues, the author found that they penetrated only the softest portion of the cancerous mass; but in those places where the disease had only just commenced to develop, and which were just the points he intended to reach, the needles were arrested by the density of the tissue, and began to bend. In order to overcome this difficulty he then proceeded to attach the needles to an ordinary constant current battery with a view of calling in aid its electrolytic properties, and he thus succeeded in penetrating with the greatest ease the densest tissues. He further employs the electrolytic process to destroy the tissue intervening between the two points after both have been introduced. As soon as he feels that the metallic contact between the two points is obtained, he removes the constant current battery, and applies the wires of the caustic battery, when heat is developed instanter. The instruments can thus, while cold, be carried with the greatest nicety to the points which it is wished to destroy.

In the discussion on this paper, Dr. Byrne suggested that in order to prevent those parts of the needles not in contact with the tissues attaining a higher temperature than those within, the needles for this purpose should be made of silver or pure copper up to within half an inch or less from the point, the platinum ends being attached by gold solder, which would be found perfectly secure. He thought that, if made with dagger-shaped points, such needles could be introduced into the densest tissues without the aid of an electrolytic effect; but that, if necessary, the improved four-cell cautery battery, when half immersed, would produce a very powerful electrolytic effect, and thus render unnecessary the employment of a second apparatus.

—American Journal of Obstetrics.

A Case of Dermoid Cyst successfully Removed by Ovariotomy.

In a paper read before the Société de Médecine de Strasbourg, Dr. Koeberlé relates a case of dermoid cyst removed by ovariotomy. The patient, a lady twenty-three years old, had always enjoyed good health till the commencement of 1875. At that time, in the second month of her first pregnancy, she was suddenly attacked by violent pain in the hypogastrium, accompanied by colic and vomiting. After lasting two or three hours this subsided completely. At the fourth month a similar attack occurred, and lasted a whole day. The remainder of the pregnancy and the delivery were entirely normal. After delivery the abdomen remained large, and tender at its lower part. Five months after, on 23rd December, 1875, she had another attack of very violent pain, lasting for three days. This was

ascribed at the time by Dr. Duboué, of Pau, to be a peritoneal irritation which appeared to result from a hæmatocele. On 1st January, 1876, a new attack of pain occurred, and lasted six days. The pain was situated chiefly in the right groin, radiating to the thigh and loin of the same side, and, as on the former occasion, was unaccompanied by any elevation of temperature. After this the presence of an ovarian cyst was recognised, but could not be definitely connected with the occurrence of the pain. An attack of pain again occurred in August, and finally a still more severe one towards the end of November. This commenced instantaneously, in consequence of a sudden movement of rotation of the body, and did not cease for twenty days, being accompanied as before by vomiting, cramp, colic, and extreme tenderness of the abdomen, with tympanitis. Shortly after each crisis the size of the tumour notably diminished.

For about four months afterwards no further attack of pain had occurred, and the size of the tumour did not perceptibly increase. There was no emaciation, and menstruation was normal. Dr. Koeberlé found the abdominal tumour to consist of an ovarian cyst, of from nineteen to twenty centimetres in diameter, situated chiefly at the left side of the hypogastrium. It reached about four fingerbreadths above the umbilicus, and appeared quite movable, though it could not be pushed so far to the right side as to the left. The tumour was fluctuating, and a vibratory thrill could be felt perfectly over the left side, not so distinctly towards the right. Towards the lower and left portion of the tumour could be felt a small, firm, tuberosity, of from four to five centimetres in length. The body of the uterus was displaced towards the right, the cervix towards the left.

The diagnosis made was that of a cyst of the left ovary, without abdominal adhesions, and probably dermoid, on account of the good general condition, the slowness of growth, and the firmness of the prominent tuberosity. The attacks of pain suffered by the patient were attributed to a torsion of the pedicle; but it appeared inexplicable why the pain should have occurred on the right side. Although the tumour was moderate in size, and stationary for some months, extirpation was resolved on. It was thought that the attacks of pain were the result of the tumour, and that it was wiser to operate while the condition was good, and avoid the risk of ulterior complications.

Ovariotomy was performed by Dr. Koeberlé on April 10th, 1877. An incision, ten centimetres long, laid bare the cyst, which was adherent to the abdominal wall by numerous fibrous bands, very vascular, but not containing vessels of important size. When the cyst was punctured, about a litre of brownish-red thick fluid escaped, containing masses of fat, mingled with blonde hairs, of from one to four centimetres in length. The diagnosis as to the dermoid nature of the tumour was thus confirmed. The cyst was detached from its adhesions, which covered nearly three-fourths of its surface, extending as low as the pelvis. The pedicle consisted of two parts, a broad, fibrous, and vascular band, continuous with the broad ligament on the right side, and adherent to the base of the tumour, and a slender

true pedicle, springing from the right side, from five to seven millimetres in diameter, and twisted upon itself as much as two circumferences. The right Fallopian tube was involved in a spiral with it. The broad fibrous band was separated, and the hæmorrhage arrested with considerable difficulty. The pedicle was then inclosed in an iron wire attached to a serre-nœud, and the tumour excised. The pedicle was capable of being untwisted, and was of good length. The left ovary was healthy. The patient recovered without any interruption after the operation, the temperature not rising above 37°8 C.

The author remarks that the localisation of pain on the right side was explained by the tumour having originated in the right ovary, although this was impossible to diagnose before the operation. The tumour consisted of a unilocular dermoid cyst. The internal cutaneous integument was deprived of epidermis, and the hairs which had covered it were, for the most part, shed. The small hard tumour in the walls of the cyst was also of a dermoid character, and partially covered with mucous membrane. The life of the dermoid tissues appeared to have been destroyed in consequence of the twisting of the pedicle, but the vitality of the envelopes had been preserved, in consequence of the adhesions which had been formed. Deposits of clot existed in many parts over the surface of the cyst.—Gazette Médicale de Strasbourg.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"The Transactions of the Edinburgh Obstetrical Society." Vol. IV. Edinburgh: Oliver and Boyd, 1878. Pp. 446.

"On Numerical Anomalies of the Breasts." By William Sneddon,

M.D., Beith.

"Asiles d'Accouchement de la Ville de St. Pétersbourg." Par W.

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"Ueber die Bedeutung der Nabelschnurtorsionen." Von Dr. A.

Martin. Stuttgart: 1878.

"The Columbia Hospital and Lying-in Asylum." By a Citizen of Washington. Louisville: 1877.

"The Future Australian Race." By Marcus Clarke. Melbourne:

1877.

Communications received from Mr. Berry, Dr. Herman, Mr. Newcombe, Dr. David Young, Dr. Edis, and Dr. Roper.

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Original Communications.

CASES ILLUSTRATING THE DIAGNOSIS OF ABDOMINAL TUMOURS.*

By ARTHUR W. Edis, M.D., &c.

Assistant Obstetric Physician Middlesex Hospital; Physician to the British Lying-in Hospital, &c.

WE often learn more from our failures than we do from our successes. In offering the following cases to the attention of the Society, I have scrupulously avoided mentioning any names or other indications which might lead to the identification of the cases, except possibly by those, who may be sufficiently interested in the subject to peruse the account of them, who were kind enough to give me the opportunity of observing them in consultation. And here let me at once state that my only object in bringing the cases forward is with the hope of directing attention to the necessity of systematically examining every enlargement of the abdomen by as many senses as we can bring to bear upon them; inspecting by means of sight, palpating by means of touch, hearing by means of percussion and auscultation; and if these are not sufficient, intensifying these faculties by aspiration of cysts and examination of the contents by the microscope and chemical agents. In addition to these common senses, let us never forget to bring to bear upon the question the far higher

^{*} Read before the Harveian Society, March, 1878.

attribute of reason, fortified by memory, guided by intelligence, and assisted by exact observation.

In many of the instances where serious error of diagnosis has occurred, it seemed to be to depend less upon the practitioner's powers of observation than upon his forming too hasty an opinion from imperfect data. It needed only a more systematic and careful exploration to convince him that he had been in error. Here and there, of course, cases occur that baffle all our powers of diagnosis, and at best remain as matters of conjecture or of individual opinion that time alone will serve to make clear.

Unilocular Ovarian-Supposed Pregnancy.-A. B., aged eighteen, single; first catamenia at fifteen and a half years of age; always irregular, but ceased entirely some six months before coming under observation. This, coupled with the gradually increasing size of the abdomen, led the friends to fear there might be some more natural explanation of the symptoms than they were prepared for. The practitioner evidently failed to satisfy himself of the exact nature of the enlargement, and she was sent to me to ascertain, if possible, what really was the nature of the case. I found her to be a delicate-looking girl, more like fifteen than eighteen, with thin oval features; somewhat pinched and anxious expression of countenance; of but feeble muscular development; average height. The condition of the chest was carefully noted, but there was no evidence of any mischief. The urine was not examined at this visit, but it was reported to be normal in appearance and quantity; subsequently this was verified in the usual way. On placing her on the couch in the dorsal position, with the shoulders raised, and uncovering the abdomen, it was found, on inspection, to be uniformly distended, the girth just below the umbilicus being thirty There was dulness on percussion anteriorly, the flanks being resonant. Distinct fluctuation could be detected on palpation, so readily, in fact, that at first it seemed more like that met with in cases of ascites. On auscultation no gurgling or bruit was audible, showing that the intestines were thrust aside. The case was not one of pregnancy, as suspected by the friends, but an ovarian cyst.

This was subsequently tapped, and over eight quarts of clear fluid, of sp. gr. 1005, drawn off, with all the characteristics of its being ovarian.

Pregnancy, supposed Ovarian.-M. N., aged twenty-two, single, a fine healthy-looking young woman, was sent up to me for an opinion as regards the nature of an abdominal tumour. The practitioner who had been first consulted, misled, I fear, by the patient's position in society, and charitably disposed to believe well of her, never seemed to have questioned the possibility of her being pregnant. The history was, briefly, cessation of the catamenia for nearly eight months. At first there had evidently been constipation with flatulent distension of the abdomen. This was relieved by aperient medicine, and the tumour thus apparently lessened in size. There had been sickness also in the early months, but this had been attributed to gastric disturbance. The features had altered in character, having become somewhat pinched and drawn, which was considered to be confirmatory of ovarian disorder. The characteristic gait of the patient, such as ordinarily noticed in pregnant females, together with a certain healthy appearance generally, suggested at once the expediency of noting the condition of the mammæ, under the plea of examining the chest. The areolæ were found to be very dark, the follicles very prominent, the breasts full, the veins on the surface very distinct. On examining the abdomen, it was found to be symmetrically enlarged by a tumour extending nearly up to the ensiform cartilage. It was dull on percussion all over the tumour; on palpation, the characteristic feel of the pregnant uterus was detected, with the breech of the fœtus lying towards the left hypochondriac region. The sudden impulse communicated to the hand, together with the placental bruit and fœtal heart sounds, left no doubt whatever as to the nature of the enlargement. The liquor amnii seemed to be somewhat greater than normal, or else the fœtus was very small, as fluctuation could be detected.

Remarks.—The only inference I would suggest here, is to depend more upon objective signs than subjective symptoms.

Malignant Disease of Omentum—Supposed Extra-Uterine

Fætation.—E. F., widow, aged forty-one, mother of six children; catamenia regular. I was asked to see her in consultation, the practitioner in charge having diagnosed extra-uterine fœtation, which seemed to him so clear that the position of the head just entering the pelvic brim and the projecting knees could be plainly felt. On inspection the abdomen was found to be irregularly enlarged, the circumference just below umbilicus measuring twenty-nine inches. On palpation a tumour occupying the left lower abdomen, extending up to the level of the umbilicus, could plainly be detected. It was hard, irregular in outline, mobile, and did certainly present somewhat the appearance of a fullgrown fœtus. Per vaginam, the uterus was found to be pushed over to the right, less mobile than normal, increased in bulk, the left side of the pelvic brim being occupied by what closely corresponded to the fœtal head in size and general consistence. Percussion enabled us accurately to define the exact extent of the mass, the remainder of the abdomen being clear and resonant anteriorly, though dull in both flanks. On auscultation, no bruit whatever could be detected, nor any trace of feetal heart sounds. She had been a widow for some years, but there was a suspicion that pregnancy might be possible. On inquiring very carefully into the history, the patient stated that she had noticed the enlargement gradually increasing during the last few months; there had been pain, especially at night, and she had emaciated of late. On relaxing the abdominal walls and manipulating the tumour carefully, the conclusion was arrived at that it must be cancer of the omentum, as there was no history of ague, and the position of the growth was lower than that usually found in cases of enlargement of the spleen, although at first it presented many symptoms suggesting the possibility of this condition. Within a short time from this, jaundice declared itself; the pain in the abdomen increased. Ascites was present, and the patient succumbed about eight months after first being seen with general cancerous affection of all the organs. The omentum was considerably enlarged and the liver especially affected.

Fibroid of Uterus-Supposed Pregnancy.-G. H., aged

thirty-two, married seven years, mother of two children. General health began to fail some few months back; an enlargement of the abdomen was detected extending up to midway between the ensiform cartilage and the umbilicus, which was supposed to be utero-gestation about the seventh month. On inquiry the patient stated that there had been a profuse sanguineous discharge at intervals, which it was thought might be due to placenta prævia. There was extensive cardiac disease, aortic obstructive and mitral regurgitant, ascites and anasarca of both lower extremities. A distinct bruit was audible over the abdominal tumour, due as believed to the placenta. I was asked to see the patient with a view to inducing premature labour, as it was feared the case would prove fatal if allowed to go on longer. On inspecting the abdomen it was found to be symmetrically enlarged, a distinct prominence the size of an adult head occupying the anterior and lower portion of the abdomen. On palpation this was found to be exceedingly dense and solid, quite different to the feel of the pregnant uterus, being uniform in consistence, almost of stony hardness. On percussion dulness was detected anteriorly and in either flank, some ascitic fluid also being present in the abdomen. On auscultation a bruit similar to that met with when any tumour in the abdomen is pressed back on the abdominal aorta, was audible, not unlike the placental bruit, but of course no fœtal heart sounds were detected.

Remarks.—It may seem strange that any practitioner could mistake the difference between ordinary pregnancy and fibroid; but this mistake is, I feel sure, by no means so rare as we might imagine. I have notes of another similar case, where on the supposition of its being one of placenta prævia the patient was confined to bed for several weeks, and the mistake only ultimately discovered when an expert was called in to induce labour.

Spurious Pregnancy and Parturition—Flatulent Distension of Abdomen.—K. L., aged forty-five, married two years. About a twelvemonth before my first seeing her the abdomen began to enlarge, the catamenia ceased, and there was sickness of a morning and other symptoms leading her to believe

that she was pregnant. She had, however, irregular sanguineous discharges per vaginam at long intervals, but being very desirous of becoming a mother she evidently made light of these. She was troubled a good deal with flatulence, constipation, and was very hypochondriacal. Distinct movements, supposed to be fœtal, were felt from time to time. Her medical attendant prescribed for these symptoms with variable success, but informed her she could not expect to be much better until after her confinement. The abdomen meanwhile went on enlarging in size, and in due course the nurse was engaged and the doctor sent for. He seems to have made a vaginal examination, and informed the friends that everything was as it should be, but that it would not come off just immediately. He remained with her from ten P.M. to seven A.M., during which time she had severe though irregular pains in the abdomen which prevented her sleeping, and were regarded as true labour pains. Everything had been prepared for the advent of a child, and parturition confidently expected. On the doctor's return at ten A.M. he again examined, and seemed then to have doubts about its being a straightforward case, and suggested that he would like to have further advice. The pains were now becoming more irregular in frequency and duration, and the patient herself worn out for want of rest. There had been a slight "show" of sanguineous discharge. An opiate was administered and several hours' sleep obtained, but on the patient's awakening the pains no longer recurred. It was supposed that labour was for the time arrested, and the patient urged to remain quiet and to send for the doctor when his services were required. Several days elapsing and no further symptoms of labour appearing, I was requested to see her. examining the abdomen, it was found to be enormously distended symmetrically, the recti abdomini muscles being held in a state of tension, and pain was complained of on pressure. On percussion the abdomen was found to be uniformly resonant and tympanitic. On auscultation the movement of flatus in the intestines was audible, no placental bruit nor fœtal pulsation being detected. Per vaginam, the uterus was found to be somewhat bulky, central, mobile, the cervix

normal in character, the os circular and closed. The evidence of spurious pregnancy being so clear, it was not deemed necessary to administer chloroform, as really there was no diagnosis to clear up. The administration of a turpentine enema was followed by the expulsion of a considerable amount of fæcal accumulation, together with much flatus, after which the abdomen became much smaller and softer, and no abdominal tumour whatever could be detected.

In this case the practitioner was evidently taken off his guard, and assumed that pregnancy existed without attempting to confirm it. Percussion alone would have been sufficient to have proved the absence of any abdominal tumour, and careful auscultation could not have failed to clear up the diagnosis. There were none of the ordinary mammary signs of pregnancy, nor indeed any enlargement of the uterus or softening of the cervix such as usually met with. When we consider, however, that spurious pregnancy and parturition is not unknown among the canine species, we shall wonder less at the occurrence in the human female.

Cirrhosis - Ascites - Malignant Disease of Omentum-Supposed Multilocular Ovarian Cyst.—C. D., aged forty-five; married; mother of one child eighteen years old; catamenia regular. Patient was a short, thick-set individual, dark hair and eyes, sallow complexion. She first noticed enlargement of the abdomen some three months before my first seeing her, at which time she was reported to have had an attack of rheumatic fever, which lasted three weeks, and was attended by severe pain in both lower extremities. On getting about again she noticed that her abdomen seemed unusually heavy and cumbersome, and she could only turn in bed with difficulty, not being able to lie down, but obliged to be propped up with pillows, or otherwise her respiration became interfered with. She had consulted three practitioners, who apparently agreed that she had a multilocular ovarian tumour. for which ovariotomy held out the only prospect of relief. On examination the abdomen was found to be considerably distended, measuring forty-six inches in circumference just below the umbilicus; it was extremely tense, and the superficial veins well marked. On percussion the right flank was

distinctly resonant, the left less so, but not altogether dull. There was complete dulness over the abdomen generally, the dulness extending nearly up to the ensiform cartilage, and continuous with the hepatic dulness. On palpation the abdomen was found to be exceedingly tense and resistant, fluctuation being well marked on deep pressure. Two large solid masses were detected, one in the lower part of the right lumbar, and the other in the left iliac region. On auscultation the movement of flatus in the intestine was very marked on either side of the abdomen; no bruit or other abnormal sounds were detected. Per vaginam, the uterus was found to be somewhat bulky, normal in position, mobile, not apparently connected with the solid mass to left of abdomen. Fluctuation was detected on percussing the abdomen through the fundus vaginæ, clearly proving that there was some free ascitic fluid in the pelvis. No impulse could be detected by pressure upon either of the solid masses before alluded to. On inquiry there was a history of dysuria, micturition being at times frequent and painful, occasionally necessitating the employment of a catheter. The urine itself was clear, amber-coloured, sp. gr. 1020, non-albuminous, although at times it was reported to be loaded with lithates. The heart-sounds were normal in character. Considering that two practitioners had previously expressed an opinion that the enlargement of the abdomen was due to an ovarian cyst, and that the patient herself was very anxious to have the tumour removed, the physical signs being so perplexing, it was decided to resort to an exploratory incision with a view to clearing up the diagnosis, and proceeding to extirpation of the cyst if found advisable. Having been placed under the influence of ether, an incision three inches in length was made in the mesian line between the umbilicus and pubis. On puncturing the peritoneum a large quantity of clear ascitic fluid gushed forth, and when about a pailful of this had been removed, the hand was then carefully inserted into the womb and the following condition detected. The ovaries were both normal in size, no ovarian cyst existed, the peritoneum was studded all over with minute white points the size of a large pin's head; the two masses previously

detected were found to be due to malignant disease of the omentum. The liver was unusually hard and nodular, evidently in a state of cirrhosis. Such being the case, after evacuating the fluid contents of the abdomen, the wound was closed. The patient made a satisfactory convalescence, but the fluid gradually re-accumulated and necessitated tapping again at the end of a month. This was twice repeated, when the patient's health gradually gave way, and she died six months afterwards with marked symptoms of malignant disease. No post-mortem was obtained, as the patient died at some distance from town.

Remarks.—The physical signs in this case were unquestionably of a very perplexing nature. The resonance in the lumbar regions, together with the dulness anteriorly, seemed to point to the presence of an ovarian cyst. The abdominal walls were so tense that palpation could only be imperfectly carried out. They were also so fat that percussion could not be accomplished with that precision desirable. There had evidently been peritonitis, which bound the intestines down, and thus caused a fallacy, in that the flanks were resonant. The abdomen was so enormously distended with ascitic fluid that the intestines were held back by the mesentery from coming to the surface, and thus we had dulness anteriorly.

CASE OF PUERPERAL CONVULSIONS,

(WITH REMARKS).*

By J. G. SWAYNE, M.D.

Consulting Physician-Accoucheur to the Bristol General Hospital.

THE following case is similar to some which I have occasionally brought forward at previous meetings of our branch. It is an additional illustration of the value of an old-fashioned, and now almost obsolete, remedy.

On October 1st, 1877, I was requested by Mr. Stevens, of Stapleton Road, to see Mrs. M., a primipara, living in

^{*} Read at the meeting of the Bath and Bristol Branch of the British Medical Association, on March 13th, 1878.

Moorhill Street, Stapleton Road. She had been attacked with convulsions about two weeks before the expected time of delivery. Mr. Stevens told me that the first convulsion had come on at about ten P.M. on the previous evening (Sept. 30th). He then saw her, and gave her a draught containing half a drachm of hydrate of chloral and a drachm of bromide of potassium every four hours. On my arrival about ten the next morning I was informed that the fits had continued during the night, and that three of the above draughts had been given. The fits at first occurred every hour, and then became more frequent until the time when I saw her, when they returned about three times in the hour. She was then lying completely unconscious, with the pupils dilated and fixed, and the breathing slightly stertorous; the urine passed involuntarily. However, we succeeded by catheterism in obtaining about ziij for examination; this became almost solid when boiled. There had been no symptoms of labour, but on examining I found the os uteri sufficiently open to admit the tip of the finger, and I felt the head presenting. We ordered the chloral to be continued, and I bled her in a full stream from a large orifice to 3xxx. Her countenance, which before this was swollen and livid, became rather pale, and the breathing less stertorous. I then left her, and returned at twelve. I found, on inquiry, that that there had been only one fit at half-past ten, since the bleeding, and that she appeared somewhat relieved. The pulse was rapid, irregular, and feeble, the respiration occasionally sighing, and about 56 in a minute. I did not see her again until eight P.M. I was then told that the fits had returned three times, in a very modified form, since we left her; she seemed rather restless and uncomfortable, as if in pain occasionally. On examination I was pleased to find that labour had been progressing rapidly, and that the head was pressing on the perinæum; I therefore applied the short forceps, and delivered her of a stillborn male child of average size. The child had apparently been dead for some hours, as desquamation of the cuticle had commenced. The occiput presented towards the right acetabulum. I saw her again at half-past eleven on the next morning; there had

been no more convulsions, and she was becoming partially conscious, and could swallow some nourishment. The pupils contracted when exposed to the light. As no urine had been passed since the labour Mr. Stevens used the catheter, and drew off a large quantity; this was high-coloured and, on being boiled, showed an albuminous sediment which formed five-eighths of the whole bulk. I did not see her again, but Mr. Stevens informed me by note that she regained consciousness on the evening of the following day (October 3rd). She did not regain power over her bladder until October 5th, but continued to improve, and was quite convalescent on October 9th, the date of Mr. Stevens's note.

The case just related presents no special features of interest or even of novelty, but it may be of use in helping us to come to some conclusion with regard to the value of bleeding in the treatment of puerperal convulsions. There is just at the present time a great difference of opinion amongst the best obstetric authorities as to the amount of benefit to be derived from this remedy. To prove this, I need only refer to a discussion which took place at a meeting of the Dublin Obstetrical Society on the 12th of last May. A case of puerperal convulsions had been read, and in the course of the debate afterwards the following remarks were made:—

Dr. Kidd said, "On the whole, if I were to sum up my practice, I think that in certain rare cases, where you have a hot face, throbbing carotids, and bounding pulse, you may bleed with advantage; but the cases in which bleeding can be practised with advantage are very few indeed. If you have consciousness perfectly restored, anæsthetics are useful. If there be complete stupor and the fits are going on, avoid anæsthetics and try hard purging and emptying of the uterus. In convulsions occurring after delivery, anæsthetics are peculiarly useful, especially chloral."

The Chairman (Dr. Madden) "thought that unless the convulsions were merely hysterical, to depend upon an enema of thirty grains of chloral every eighth hour was to trifle with the life of the woman and the child. He would rely most upon free bleeding, as much as ten or twenty ounces."

Dr. Atthill "would not rely much upon bleeding, and thought it advisable only in very exceptional cases. Chloroform was the most effectual means of checking the attacks and retarding their recurrence. Chloral was also good, but took a longer time to produce its effects. He mentioned a case of a plethoric girl in whom bleeding and purging entirely failed to arrest the convulsions. They were stopped by chloroform, under which she was kept for eight hours, but returned when it was intermitted, and finally ceased only after delivery with the forceps."

Dr. Denham "did not doubt that bleeding in many cases was highly advantageous. He mentioned a case in which cerebral hæmorrhage was found after death, and thought that life might have been saved if the patient had been bled early in the convulsions. He had also great faith in purging. Anæsthetics were also useful."

"Quot homines tot sententiæ." After what I have just quoted it may well be said with regard to bleeding in puerperal convulsions "who shall decide when doctors disagree" so widely? It was very different, however, in the first half of the present century. Perhaps there was no remedy then about which doctors were so thoroughly agreed, nor did they show any doubt or hesitation as to the quantity of blood which they abstracted. The cautious Denman was not afraid to take away as much as forty ounces, and Blundell as much as seventy ounces. Now, however, the case is widely different. Bleeding has been so universally abandoned in the treatment of disease that the faith of many, as to its efficacy in puerperal convulsions, has been somewhat rudely shaken. All those therefore who like myself still believe in it, ought to be ready to give a reason for the faith that is in them. I have done this from time to time in cases which I have communicated at these meetings; but the case I have just read is perhaps as conclusive as any of these in the testimony it affords as to the value of venesection. will be observed that the convulsions had gone on for twelve hours before bleeding was resorted to; that at first they recurred about once in the hour, but that they increased in frequency until at last as many as three took place in an

hour, notwithstanding that a full trial had been given to anæsthetics in the form of hydrate of chloral and bromide of potassium, three half-drachms of the former and three drachms of the latter having been given. Thirty ounces, a large quantity, of blood was then taken. It appeared at once to produce a decided constitutional effect. The swollen livid countenance became pale, the breathing less stertorous, and the pulse soft and feeble instead of full and throbbing. There was then scarcely a sign of labour, so that immediate delivery could not be thought of. From that time the fits, which were recurring three times in an hour previously, only returned four times during the next ten hours, and were much mitigated in severity. Delivery with the forceps was then resorted to, and this completed the cure which the bleeding had commenced, for there were no fits afterwards. In this case undoubtedly bleeding and delivery were the two effectual remedies, whereas the use of anæsthetics proved a comparative failure. In this last respect, however, it differs from most other cases that I have met with, especially from one in particular in which bleeding gave relief for a time, but the fits returning, the patient was kept under the influence of chloroform for seven hours and had no more convulsions.

On referring to my note-book, I find that my experience of puerperal convulsions is founded upon thirty cases, the total number which has occurred to me since commencing practice. In twenty-two of these bleeding was resorted to, the quantity of blood extracted varying from ten to thirty ounces. In sixteen it was decidedly beneficial, and appeared to be the most efficacious remedy employed. In nearly every case it was speedily followed by a great diminution in the amount of albumen contained in the urine. To this cause I believe that it owes its great power as a remedy.

Anæsthesia, by means of chloroform or chloral, was resorted to in ten cases, and in most of these with very good effect.

Delivery either by forceps, turning, or craniotomy was employed in fourteen cases, and in eight gave decided relief. The result of my own experience is that I am in-

clined to consider bleeding and anæsthesia as the two important remedies; I can hardly say which is the most important; whilst delivery is very little inferior to them, its inferiority being chiefly due to the circumstance that it is not so generally applicable. On the whole, however, I am induced very much to agree with the following words which fell from Dr. Kidd, of Dublin, in the course of the discussion above alluded to:—"I do not know that any question arises to the obstetric practitioner attended with more difficulty, and causing more anxiety, than the treatment of puerperal convulsions. I certainly think that if we start with a fixed rule, and apply that rule to all the cases that we meet with, we shall find it an unsuccessful mode of practice."

ON THE VALUE OF RAPID DILATATION OF THE URETHRA AND NECK OF THE BLADDER AS AN AID TO UTERINE DIAGNOSIS.

By J. HALLIDAY CROOM, M.B., M.R.C.P. Edin.
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Medicine, Edinburgh.

WITH so many varied diagnostic aids at our disposal an absolutely complete examination of the uterus can be made in most cases. With the finger and speculum the vaginal portion of the cervix can be examined with ease. The peritoneal surface of the fundus and the greater part of the anterior and posterior walls, as well as the size and relations of the uterus, can be explored by a carefully conducted bi-manual examination, which, indeed, in many cases, gives entire command of the organs in the cavity of the pelvis, and usually renders a further examination unnecessary. The sponge and tangle tents of Simpson and Sloan, with but very little risk, allow the finger to pass within the cervix, and determine the condition of the interior of the uterus. In cases of any difficulty the condition of the posterior wall and space of Douglas can be ascertained by an examination per rectum. Although Simpson, Thomas, and Graily Hewitt drew attention to the importance of an examination per rectum in cases of intact hymen, and though Storer was amongst the first to improve our means of examining the rectum, it remained for Simon in 1872 to complete this method of investigation by artificial dilatation of the anus and rectum, and the gradual introduction of the whole hand up the tube. Simon claims that in this way the whole abdominal region as far as the kidney and umbilicus can be explored. Simon's method is, however, very difficult of performance, and, although permitting of a very complete examination of the contents of the pelvis, is not free from danger, as the record of more than one fatal case proves.

Again, although unquestionably nothing, in the great majority of cases, can be more satisfactory than a bi-manual examination, more especially when conducted under chloroform, yet cases occasionally do occur where this method fails to elucidate all the points of the case. These may arise from-Ist, the thickness of the abdominal walls; 2nd, from some obscurity in the nature of the tumour or malformation of the parts; or 3rd, as in the case I am about to relate, from difficulty of making sufficient pressure on both vaginal and peritoneal surfaces of uterus. Dr. Noeggerath,* of New York, in 1875, by an ingenious application of urethral dilatation, to some extent has overcome this difficulty, and shown that the uterus can be palpated by the introduction of one finger through the urethra into the bladder, while the forefinger of the other hand is introduced into the vagina or rectum.

This method he entitles the vesico-vaginal and vesico-rectal touch. The following case, which occurred in my dispensary practice, illustrates the value of this method as an aid in uterine diagnosis.

E. P., aged thirty-eight, an anæmic-looking, fairly nourished woman, of middle height, came to the Western Dispensary in September of last year, complaining of pain in the back, aching in loins, dyspepsia, and general weakness. She states she has had three children; the youngest is nearly four

^{*} American Journal of Obstetrics, May, 1875.

months old. Her labours have all been quite normal. The last child she has nursed from the breast only very partially. Except a well-marked functional bruit in the vessels, the circulatory and pulmonary systems are normal. There is no albuminuria. There has been no menstruation since confinement.

Local Examination per Vaginam.—Vagina is shortened, but roomy. There is slight descent of uterus, which is freely movable. Cervix is small, flat, and transversely fissured. Bi-manually the uterus feels smaller and softer than natural; its shape and position can be distinctly felt, and are normal. The ovaries are somewhat prolapsed, but of normal size. On introducing the sound to decide the question of superinvolution, which, from the feeling of the uterus and the general condition of patient, very naturally suggested itself, the probe passed with scarcely any force through the canal of the cervix into the cavity of uterus at least five inches. Having already approximately determined the size of the uterus with the hand, it was evident either that there was some abnormality, or that the sound had passed through the uterus. The instrument was therefore withdrawn, and no further examination of the patient made on that occasion. There was no hæmorrhage. Two days afterwards another examination was made, with a like result. On this occasion the sound was passed in seven inches. On placing the patient on her back, and causing her to draw up her legs so as to relax the muscles, the point of the sound could be easily felt through the abdominal parietes to the left side and slightly below the umbilicus. The introduction of the sound caused the patient no pain. Further examination showed that the sound passed readily in through the left side of uterus, but when the point was directed to the right side it passed in scarcely two and a half inches. When the patient lay on her back the point of the sound could be made to move from the left side of umbilicus over towards the right. The point of the sound could be felt with greater ease on some occasions. than on others, owing, no doubt, to the position of the intestines. The patient was under observation for four months, and the sound passed in repeatedly, and the points of the

case verified by Drs. Houston and Jepson and my dispensary pupils.

The question to be decided in the case was, Does the sound perforate the soft fundus uteri, or does it enter a dilated Fallopian tube? Cases illustrating both possibilities have been recorded; Simpson,* Martin,† Spiegelberg,‡ and Lawson Tait \(\) adducing instances where perforation has taken place, and Duncan, || Hildebrandt, ¶ and Biedert** holding that the sound may pass through the dilated Fallopian tube. The object of the present short communication is not to enter into a discussion of the very interesting points in dilatation of the Fallopian tube or the formation of a metro-peritoneal fistula, but merely to show how a definite diagnosis in the present case was arrived at. The difficulty of deciding exactly the point at which the sound left the uterus by the usual means was obvious. Ist. Bi-manually with the sound in the vagina and the point protruding free in the peritoneum. I considered it dangerous to make the necessary steady pressure on the fundus, because, after all, the pressure with the internal hand upwards and forwards, and with the fingers of the external hand downwards and backwards, must be firm and steady to elicit exact results. Further, it must be remembered that the sound passed always through the uterus at the left side, making it still more difficult to decide exactly on so small a surface. Even had the patient been very thin, which she was not, I think it would have been very difficult to ascertain this with precision. I am aware that Mr. Lawson Tait++ found that, in a case reported by him, he could with the the most perfect accuracy determine the exact point through which the sound passed by the bi-manual method. All I can say is, that my attempt by the same means was not so successful, and I failed to satisfy myself of the point of

^{*} Tait, "Diseases of Women," p. 153.

† "Monographie über Neigungen und Bengungen der Gebärmutter."

‡ Volkman, "Sammlung Klinischer Vorträge." No. 24.

§ Lancet, 1872. No. 19.

§ Lancet, 1872. No. 19.

§ Edin. Med. Journ., June, 1856.

¶ Berl. Klin. Wochensch, 1870. 17.

** Berl. Klin. Wochensch, 1877. October.

†† "Diseases of Women," p. 154.

entrance of sound. 2nd. Exploration of the interior of the uterus with tents appeared unsatisfactory, as, if the sound perforated the substance of the uterus, immediately on its withdrawal the opening would close, and the finger in the cavum uteri would detect nothing. To dilate the cervix with the sound still in situ would hardly have been justifiable. 3rd. In view of the danger attending Simon's plan of examination per rectum, and as the examination was only undertaken to establish a point in diagnosis, and not for therapeutic purposes, it was clear this method must be discarded. After having the patient under observation for several months, and after her general health had greatly improved and she had gained weight and colour by cod-liver, iron, and a short stay in the country, and when still the sound passed readily, though not quite so easily, through the left side of uterus, it was determined to examine the fundus uteri through the bladder by a modification of Noeggerath's plan, and instead of using the dilators mentioned by him to employ the hard-rubber conical plugs of Simon-which I showed to the Society some months ago-Noeggerath points out that the dilatation may either be rapid or gradual. In the former case it is accomplished at one sitting by any of the ordinary dilators, such as those of Weiss, Ellinger, and Busch. In the latter case the object is gained by bougies or tents at repeated sittings.

Noeggerath performed the operation in his consulting-room or at the house of the patient, according as his patient desired chloroform or not. Dr. Noeggerath says that no inconvenience resulted to the patient in any of the thirteen cases in which he performed it, beyond a little local pain and temporary incontinence, and even this not in every case. I am inclined to think that he underrates the danger of incontinence; at least in a patient in whom I dilated the urethra some months ago a certain degree of incontinence still continues. The indications given by Dr. Noeggerath for his operation are—

- 1. For obscure tumours in the neighbourhood of the uterus.
- 2. To complete the diagnosis of inversion.
- 3. For the early diagnosis of pregnancy.

- 4. To recognise suspected congenital deformity, or absence of uterus.
- 5. To guard against injuring bladder in removing parts of the supra-vaginal neck in hypertrophy.

To these indications I venture to add any case of disputed and uncertain diagnosis as the present.

In the present case the following operation was performed: -- After placing the patient under chloroform, the sound was introduced into the uterus to the length of five inches and retained there by an assistant. The cervix was then grasped with a vulsellum. Three small incisions having been made in the rim of the meatus, Simon's hard-rubber conical urethral dilators were introduced into the urethra until it was sufficiently dilated to admit the forefinger. I then introduced my forefinger into the bladder; at the same time an assistant made steady traction on the cervix with the vulsellum so as to bring the fundus within easy range of my finger. With my forefinger on the posterior vesical wall, and middle finger in the vagina, I could distinctly feel the sound moving and make out the fundus and anterior wall of uterus. I could feel the sound protruding through the upper and anterior part of left cornu of uterus, and to the left side of it, quite separate and distinct, the proximal end of left Fallopian tube. I did not feel the right Fallopian tube. In this case the examination was rendered the more easy as the uterus was freely movable, and admitted of considerable depression with the vulsellum, thus permitting me to get my finger up to the fundus, and then again the hard solid sound was a body easy enough of detection. I certainly think it would have been much more difficult to make out the uterus exactly if there had been no sound through its fundus. With my forefinger I could feel only the fundus with the sound protruding through the left cornu, and the proximal end of the left tube. I could not feel the tube in its whole extent, nor the right Fallopian, and not, as Noeggerath says he has, the ovaries. While my finger was in contact with the point in the fundus through which sound passed, I slowly withdrew it, but could not find any depression on the surface of uterus corresponding to it.

The examination was entirely satisfactory to my mind as settling the point for which it was undertaken, and proving that the sound perforated, in this case at least, the substance of the fundus, and showed how easily and frequently this may occur without harm to the patient. The patient had slight incontinence for a day or two, but this entirely passed off. The operation just described is not to be classed among the routine methods of uterine diagnosis; but, as the result in this case showed, it is perfectly justifiable for the clearing up of some difficult points.

TWO CASES OF INVERSION OF THE UTERUS FOLLOWING DELIVERY.*

By James Braithwaite, M.D. Lond.

Vice-President of the Obstetrical Society of London; Lecturer on Diseases of Women and Children at the Leeds School of Medicine; Surgeon to the Hospital for Women and Children.

CASE I .- Mrs. M., of Harrogate, was confined of her first child on Wednesday, February 20th. There was a slight adhesion which prevented the easy expulsion of the placenta, and which caused a good deal of hæmorrhage before its removal. It was not, however, necessary to pass the hand into the vagina in order to do this. If any traction was made upon the cord, it was very slight, and quite insufficient, in the opinion of the medical man who attended the case, to account for the inversion which was discovered to exist on the Friday following. It seems not improbable that the inversion really took place at the time of removal of the placenta, as the patient was at that time quite in a state of collapse, with a feeble or almost imperceptible pulse. Dr. Myrtle saw the case on the Friday, and confirmed the diagnosis made. I was sent for on the following Monday, repeated attempts having been made to replace the uterus, but without success. I found the inversion complete, no rim of cervix remaining. There was no difficulty in exa-

^{*} Read before the Yorkshire Branch of the British Medical Association at Rotherham, March 26.

mining every part of the tumour by the hand. The depression or cup of the inverted os could be felt through the abdominal walls when the organ was a little pushed up by the hand in the vagina. Making counter-pressure upon this part by one hand on the abdomen, I made the most strenuous exertions to reinvert the uterus, but found it quite impossible to do so, owing to the very firm contraction of the cervix. The rule is to press chiefly at the neck, so as to return first the part which came down last. This cannot always be carried out in practice, for, as in this case, the mass may be so large, that when the fingers reach the cervix on one aspect, the thumb rests upon the fundus, and it is obvious that pressure of the finger-tips in the sulcus between the uterus and vagina surrounding it, without a good grasping power, can be of but little service. The pressure under these circumstances must necessarily be made full upon the fundus. Fearing to do harm by the use of further forcible taxis, we decided to fall back upon continuous elastic pressure. I therefore sent over from Leeds the necessary instruments-namely, a cup of wood, with slightly-curved stem, the cup being surmounted by a circular india-rubber air-pad, and the stem being set in an india-rubber band, attached before and behind to an abdominal belt. Pressure was kept up by means of this upon the fundus, and attempts at reduction made every day or two, but without any result. I saw the case for the second time on March 6th. For four days previously the pressure had been kept up with great care and very strongly, but no vaginal examination had been made. On introducing the hand, the patient being under chloroform, it appeared at first as if no reduction had been effected, but that the uterus was much smaller. The upper part of the vagina, or what I took to be the vagina, was rather tighter and smoother than the lower and major part of the canal, and this part ended inferiorly at a defined line, but without any ridge or inequality of surface; but it took a moment for the mind to realise that this was really the cervix uteri reinverted, but immensely expanded. The greater part of the uterus was still inverted, but now there was no difficulty in returning it, excepting the last portion, which gave a little trouble. The success of the elastic pressure, the credit of first proposing which is due to the late Dr. Tyler Smith, was in this case complete, and without it I do not believe the uterus could have been reinverted.

Case II.—I received an urgent message three years ago to see a woman who was said to be dying, and on arrival found she had been delivered half an hour before by a midwife who was present. The patient was apparently almost in articulo mortis. The midwife had discovered that there was something in the vagina which was unusual; the placenta had come away or been removed; the uterus was found to be completely inverted, no rim of cervix remaining. The hand placed on the abdomen felt what by a superficial or hurried examination might easily be mistaken for a small fundus uteri, but which was distinctly cupped and was the inverted os and cervix. The uterus was grasped and firmly pushed up, and was returned rapidly to its place. The first part which went up was the posterior part of the cervix and the last the anterior part of the cervix, so that a section of the uterus when half returned would be roughly represented by a capital S. In this case the neck had not the small size compared with the fundus observed in the other case, and which was caused by the firm closure or contraction of the part. It is evident that the uterus is not always reinverted in the same manner:-1. The cervical portion as a whole may be returned first and the fundus last. 2. The posterior wall of the cervix may be returned first and the anterior last, or vice versâ; this is only likely to happen immediately after delivery, for it supposes a relaxed state of cervix. 3. The fundus may be returned first, as in a case in which pressure upon the cervix and fundus by the expanded hand quite failed, but the finger-tips pressed against the fundus caused it to dint in. Continued pressure in the same situation then caused it to spring rapidly back into its natural position. 4. Two or three cases are recorded in which pressure upon one or other cornu of the fundus by the tip of the thumb reinverted this portion, and the rest of the organ rapidly followed its lead, quite springing into its place, Marion Sims relates a case of this kind in which

several men of experience in New York had failed, but he candidly adds that his own success was accidental; he was not aware that pressure on this spot would produce the result it did.

Notices and Reviews of Books.

Ziemssen's Cyclopædia of the Practice of Medicine. Vol. XVI.

Diseases of the Locomotive Apparatus. Sampson Low
& Co. Pp. 1060.

WITH the sixteenth volume of this series, the publishers have issued a circular to the subscribers, stating that in consequence of the German authors having so considerably exceeded the limits of space originally laid down, it has been found necessary to extend the number of volumes from fifteen to seventeen. They had already done all they possibly could to restrict the work to the proposed number of volumes, having largely increased the bulk of many of the later volumes at great extra cost. The work has already such a high reputation as the only complete compendium of the most recent advances of science in all the subjects of which it treats, that we cannot doubt that all the subscribers will commend this action of the publishers as far preferable to any condensation or abridgment in the translation.

The present volume is of great value, and contains much matter of interest in relation to Gynæcology and the Diseases of Children. The essays on Rickets and Malacosteon, as well as those on Rheumatism, Gout, Arthritis Deformans, and Diabetes Mellitus, are by Senator. The discussion on the pathology and etiology of rickets is of much interest. To improper feeding is assigned the foremost place among exciting causes, but the author bears testimony that the popular error in Germany is the opposite of that more commonly found in England, and considers that it is more necessary, in the present day, to insist on the necessity of not keeping an infant too long to the mother's milk, than on that of not substituting too early for the milk food unsuited

to its digestive powers. He states that in the rural districts of Germany, a large—perhaps the larger—proportion of all the cases of rickets is furnished by children who have been kept at the breast till they are a year old or even older, without being supplied with any additional nourishment, or at most with extremely little of it. With reference to the proximate causation, it is laid down that a deficient supply or deficient absorption of lime or phosphoric acid is not, per se, capable of producing rickets, since the withholding of these substances does not produce that effect in animals. Moreover, Wagner has brought experimental evidence to show that true rickets may be artificially produced by the continued administration of very minute doses of phosphorus (which exert a specific irritant influence upon the osteo-plastic tissue), together with a simultaneous withdrawal of lime from the food. The conclusion therefore is clear, that some irritant matter is either introduced into the body with the unsuitable food, or else generated from it in the system (the latter being the more plausible hypothesis); and that, further, either the food is deficient in lime, or the absorption of lime-salts from the alimentary canal is in some way hindered. The author goes a step further, and accepts as probable a conclusion which is scarcely safe without further confirmation—namely, that the special irritant is lactic acid, to the poisonous action of which other and very different pathological processes have been ascribed. This he does mainly on the strength of some recent statements of Heitzmann, who asserts that lactic acid influences the osteo-plastic tissues—at any rate in carnivora in exactly the same way as phosphorus, and that, when combined with a deficiency of lime in the food, it is capable of inducing true rickets.

The pathology of malacosteon is regarded as being made up of a medley of active and passive processes. It begins with active congestion and proliferation of corpuscular elements, the initial changes in the bones presenting a certain resemblance to those in inflammation. This is associated with the common commencement of the disease during pregnancy and in the bones of the pelvis; since during pregnancy there is a natural (physiological) congestion of the pelvic

viscera, and even of the pelvic bones; and this may easily become exaggerated till it amounts to disease. The congestion is followed by a process of removal of the earthy salts, spreading centrifugally from the bloodvessels of the Haversian canals, and exactly resembling the results produced by steeping in acid. Moreover, an abnormal formation of acid has actually been demonstrated in the affected bones. Hence the conclusion of a diminished alkalinity of blood is considered justifiable. Here, however, the author rejects as not founded on any adequate basis the view of Heitzmann, who states that he has produced artificial malacosteon by the continued administration of lactic acid; the disease coming on at once in the herbivora, and after a preliminary attack of rickets in the carnivora. The author appears to prefer to the idea of any excessive absorption of acid or insufficient absorption of alkali, the view that the marrow of the bones, in a state of irritation, is prone to generate an excess of certain organic acids.

The essays upon Anæmia, Chlorosis, and Corpulence are written by Immermann. The author, while admitting that any attempt to give a precise definition of chlorosis must for the present be highly unsatisfactory, yet enumerates various important distinctions which separate it from other forms of anæmia. A first character is that chlorosis is almost exclusively a disease of the female sex, many of the reported cases of its occurrence in men, especially if much beyond the age of puberty, being of a very doubtful character. A second is, that it is essentially a disease of the period of sexual development in that sex. Next, the state of the blood in chlorosis, though very similar to that in anæmia, is not absolutely the same; in chlorosis proper the change appears to be strictly limited to the red corpuscles, both the number of corpuscles and the proportion of hæmoglobin they contain being diminished, while the diminution of hæmoglobin, which may be as much as a half or even a quarter of its normal amount, is far greater than in any but the most extreme cases of ordinary anæmia, thus accounting for the peculiar tint of skin in chlorosis. In other forms of anæmia, on the contrary, other constituents of the blood, especially the albuminates of

the plasma, are likewise diminished. Upon this difference depends the fact that in chlorosis the tendency is not so much to emaciation as to plumpness, which is to be associated with deficient oxidation of the tissues for lack of hæmoglobin, and with the deficiency of urea excreted which has been usually observed. With the absence of influences tending to lower the nutrient efficacy of the blood, or induce hypalbuminosis, is also to be connected the fact that the total quantity of blood is not usually diminished, as in simple anæmia, but may be actually increased, giving rise to unduly high vascular tension.

With regard to the relation of chlorosis to sexual functions, the author adopts a judicious mean between those who hold that the amenorrhœa or deficient menstruation is, in all cases, simply the result of the anæmia, and those who regard the defect or disturbance of uterine or ovarian function as the prime source of altered nutrition. The fact that chlorosis is essentially a disease of the period of sexual development in women shows its close relation to sexual function, but the anatomical condition of uterus and ovaries which have been found in such cases are most various. The uterus may be normal, stunted, or developed in excess, and the size, vascularity, and richness in follicles of the ovaries may vary as widely. So, clinically, there is one class of cases of chlorosis in which it is a sequel either of precocious menstruation or of menstruation commencing at the normal age, but in girls imperfectly nourished. In these the author regards all direct emmenagogue treatment as injurious. Chlorosis may even be developed by menorrhagia, though this is much more likely to produce simple anæmia. On the other hand, there are very numerous cases in which chlorosis is associated with delayed appearance of the catamenia; and in the vast majority of these the chlorosis is not the consequence, but the cause, of the delay. The author admits, however, that the observation of castrated males and spayed females shows that suppression of the sexual functions produces a certain degree of oligocythæmia, with tendency to put on fat; and if menstruation is much delayed (later than the seventeenth year), he finds benefit from direct emmenagogue

treatment. As to treatment in general, he finds iron the only valuable remedy, and one far more efficacious than it is in ordinary anæmia, the fault being more purely in the deficiency of hæmoglobin. He considers large doses necessary, even if a small proportion only be absorbed.

The remaining article of the volume is one by Birch-Hirschfeld on Scrofulosis and other affections of lymphatic glands. In this will be found an interesting discussion on the relation of this disease to tuberculosis and cheesy pneumonia.

Abstructs of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, April 3rd, 1878.

DR. CHARLES WEST, President, in the Chair.

Injury to Fatal Head produced by the application of Forceps.

Dr. Corv showed the head of a fœtus which had been delivered in the St. Thomas's Hospital Charity. Delivery was obstructed by a hard tumour of the size of a hen's egg, growing from the right side of the sacrum. After labour had lasted fourteen or fifteen hours, the Obstetric Resident was called in. He applied Dr. Barnes's long forceps, which slipped off twice, after which the presence of the tumour was discovered. It was also found that the cranial bones of the fœtus were laid bare, and that there was an escape of cerebral matter. In the specimen shown a large surface of the scalp was torn away from the subjacent bone. He had afterwards ascertained that a hair pin had been used to rupture the membranes, as was supposed. He thought it probable that the rupture of the scalp was commenced in this way, and afterwards completed by the forceps. He had not himself seen the case at any stage.

Cancerous Polypi removed during Pregnancy.

Dr. Galabin showed two specimens of cancerous polypi of the cervix uteri removed during pregnancy, and also microscopic sections to show the structure of the growths. The first was about two inches in diameter, and removed at the fourth month of pregnancy. The patient was reduced to extreme anæmia by metrorrhagia, which

had continued throughout gestation. After removal of the polypus by the galvanic écraseur, hæmorrhage ceased; the patient went to full term, and five months after delivery there was no sign of recurrence. The structure of the growth was peculiar. The superficial part consisted of rounded cell-masses like those of epithelioma, the outer layer of cells round each mass having the regular arrangement of cylindrical epithelium. Between the cell-masses was a very friable nucleated growth, with ill-formed inter-cellular substance. This was continuous with fibrous bands in the deeper layers, which separated columns of cells, perpendicular to the surface. The cancerous part was very sharply limited; the central part of the growth consisted of fibro-myoma, but an intervening portion approached in structure to myxoma. One detached mass was observed which had the character of alveolar carcinoma. The surface consisted of flat-tened cells, which resisted carmine staining, continuous with the cell-masses beneath. The normal squamous epithelium which covered the pedicle was broken off abruptly.

The second polypus measured three and a half by two and a half inches, and was removed at the eighth month of pregnancy. The patient was much exhausted by uncontrollable vomiting and hæmorrhage, and the growth appeared likely to obstruct parturition. From the time of its removal by the galvanic écraseur the vomiting ceased, but labour came on twenty-four hours after. The patient passed well through the puerperal state, and left the hospital in improved condition. She died about two months later without recurrence of local symptoms, but, as was supposed, from internal extension of cancer. The growth had in the main the character of carcinoma, but showed bird's-nest bodies distinctly in parts, and at its margin had advancing columns like those of epithelioma. The centre consisted of fibromyoma, and there was a very wide tract of intervening nucleated tissue. Thus both tumours illustrated the unusual combination of

fibro-myoma with cancer.

Cystic Degeneration of the Fætal Kidneys.

Dr. Gervis showed a specimen of cystic degeneration of the kidneys of a fœtus which had caused difficulty in parturition. Labour was arrested after the delivery of the head. Being called in in consultation, he found the impediment to be caused by enlargement of the fœtal abdomen, and, after evisceration, extracted the fœtus. The enlargement was found to be due to the fœtal kidneys. In the specimen shown they were seen to be increased to a large size, and appeared to consist almost entirely of innumerable cysts, chiefly of small size. Many forms of enlargement of abdominal viscera in the fœtus were recorded as obstacles to labour, but this was an unusual variety.

Pyæmic Arthritis as the Result of Congenital Syphilis.

Dr. Wiltshire showed the photograph of a child five months old, which had been under his care at St. Mary's Hospital. It showed enormous enlargement of the shoulder, hip, and knee joints. The case looked at first like one of cancer, but fluctuation was observed in the joints, and the affection had come on rapidly. It was therefore inferred that suppuration had taken place. The aspirator was used and pus drawn off, but death followed. There were signs of congenital syphilis in the shape of an eruption on the face, and mucous tubercles around the anus. At the autopsy the joints were found to be disorganised, and the epiphyses separated. Nothing was found in any of the viscera except the liver. This contained what was called an abscess by the House Surgeon, who made the inspection. The post-mortem room porter, however, a man of considerable experience, pointed out that it was a syphilitic gumma, breaking down. This was probably the starting-point of the general pyæmia.

Carcinoma of the Body of the Uterus.

Mr. Sourre showed a case of extreme carcinoma, commencing in the body of the uterus, which had run its course almost entirely without pain. The patient was a maiden lady, aged fifty-eight. Two years ago she had a sanious discharge from the vagina, which disappeared under the use of astringents, and did not recur for two or three months. Hæmorrhage then again commenced, but at this time the uterus was found to be small and movable, and the cervix free from disease. At a later stage there was fixation of the uterus, and resistance in the hypogastrium. Towards the end there was vomiting and For the last ten days fæcal matter passed by the vagina. At the autopsy it was found that there was no secondary deposit. The intestines were adherent by effused lymph in the lower part of the abdomen. The sigmoid flexure was fixed in the pelvis behind the uterus, and had ulcerated through into the vagina. The uterus was completely occupied by cancer, so that its cavity could scarcely be made out. The cervix was destroyed by ulceration.

Spontaneous Rupture of Uterus.

Dr. John Williams showed a specimen of rupture of the uterus, the laceration having occurred at the upper and anterior part of the cervix, where it is attached to the bladder. The patient was under the care of Mr. Marshall, of Colney Hatch, and was pregnant for the sixth time. The child presented by the breech and was stillborn. When he first saw the patient there was emphysema of the face and trunk, which he at first supposed must be due to some laceration of

adherent lungs. The fœtus and placenta were removed, the latter being slightly adherent. On removing it the laceration was detected, but it did not manifestly extend through the peritoneum. The patient died about an hour after delivery. At the autopsy the lungs were found healthy and not adherent, but the broad ligaments and adjoining parts were distended with air, in consequence of the rupture of uterus.

Mr. Marshall gave some further details of the case. Labour commenced on the Thursday night, there being then no dilatation of the os. A good night was passed, and the patient was about on the Friday. On Friday night some dilatation had occurred; there were some pains, but not strong or regular. On Saturday morning the waters broke, but no expulsive pains came on, and the patient walked about during the day. On Saturday night a dose of opium was given. About eight o'clock on Sunday morning, the patient jumped up suddenly, and cried out that all her bowels were passing from her. Marshall, being summoned, found the intestines protruding from the vulva. Being unable to return them, he sent for Dr. J. Williams. No hæmorrhage of importance occurred either before or after delivery, but the uterus did not contract well, remaining large and flabby. He had since found that the woman had been a drunkard. The pelvis was of full size, and all former labours had been very rapid.

Dr. Gervis asked what was the size of the os when the membranes

ruptured?

Mr. Marshall said that it was probably fully dilated, since the

vagina was afterwards found full of intestines.

The President said that it would be interesting to subject the uterus to microscopic examination. Probably degeneration of its walls had occurred. Many cases had been recorded by German observers in which rupture had taken place from this cause, in the absence of any obstruction.

Dr. HAYES said that, looking at the specimen, it appeared to him

that the rupture was partly in the vagina.

Dr. J. WILLIAMS did not think that the vagina was implicated.

Dr. Braxton Hicks asked if there had been any signs of continuous action of the uterus, or of retraction of the body of the uterus over the fœtus.

Mr. Marshall replied in the negative.

Dr. Braxton Hicks said that, in most of the cases which he had seen, rupture had occurred in the absence of any violent pains. Probably this was because cases no longer occurred which formerly were less rare—namely, those in which the rupture was due to a too long delay in affording assistance. Cases of another kind still happened, and in these the doctor was in no degree in fault. He mentioned a case in which during the course of a perfectly natural labour, the pains suddenly ceased. Symptoms only came on very gradually, but extensive rupture of the uterus and vagina was found at the autopsy.

Two Cases of Repair of the Female Bladder and Urethra.

By Mr. Lawson Tait, F.R.C.S.

The author had, on a previous occasion, related to the Society one case of success in curing an extremely difficult case of vesico-vaginal fistula after repeated attempts. The two related in the present paper were of a still more difficult kind. The first was that of a woman aged twenty-one, who had been attended by a midwife of the Birmingham Lying-in Charity. She was in strong labour from the Tuesday morning till Friday at midday, and the midwife declined to send for the Medical Officer of the Charity although pressed to do so. After delivery the patient was very ill and delirious for some time. and the urine escaped involuntarily from the first. When the patient came before the author there was so much excoriation, that even a vaginal examination could not be made without the administration of an anæsthetic. It was found that on the anterior aspect of the vagina everything was gone, except the anterior two-thirds of an inch of the urethra. A transverse cicatricial band ran across just in front of the os uteri and concealed it, forming the superior boundary of the defect. In front of this a mucous area about the size of a fiveshilling piece projected, and was recognised as being the bladder, from the fact that the ureters opened upon it. Nothing could be found of the anterior wall of the bladder, and it was concluded that this, as well as the base, had been destroyed. A consultation was held, and the case was regarded as being almost hopeless. Dr. Savage thought that even if the defect could be closed, there was no hope of obtaining any sphincter action. The author, however, resolved to operate, and attempt to fold the remnant of the bladder upon itself by bringing down tissue from the sides. The first operation was performed on May 15, 1877. To form a new urethra, two parallel incisions were made two-thirds of an inch apart, united by a short transverse incision above. The flaps were then dissected up and united in the middle, so as to turn the mucous membrane inward, and leave the raw surfaces looking towards the vagina. The sutures were removed about the middle of June, when it was found that only oneeighth of an inch had united.

On the 18th of June the operation was repeated in a similar manner, except that the flaps were made larger. The sutures were not looked at till September 19th, when it was found that the flaps had united to form a canal three-quarters of an inch in length. The operation was then performed for the closure of the main defect. Incisions were first made on each side across the tense cicatricial ridge which bounded the aperture above. Tolerably severe hæmorrhage was thereby set up, but was controlled by plugging with cotton-wool. Quadrilateral somewhat wedge-shaped flaps were then dissected up at each side of the aperture, each flap having its narrower side inward, and its broader and undetached side outward. The inner sides of the two flaps were then united together in the middle line, and their upper sides to the

transverse ridge above the defect. At one of the outer angles of the incision was inserted a drainage-tube of spiral wire to serve as exit for the urine, and keep the bladder empty. This operation quite succeeded, and left only a small aperture between the flaps last made and the new urethra. This was closed by another operation, and the patient sent out with the sutures still in place, although the urine was not retained. When she was readmitted on January 1, 1878, some urine could be retained, but there was an escape through one of the stitch-holes. This gradually closed, and the quantity retained slowly increased. She could now retain the urine for from one to three hours, and never wetted her bed, but rose upon the call to micturate. He thought that possibly some muscular tissue had, by a fortunate accident, been included in the flaps, and so made a sphincter; or that, more probably, he had luckily made a kind of

valve in constructing the urethra.

The second case was that of a patient twenty-seven years old. her first delivery labour lasted thirty-one hours, and instruments were used at last. She was very ill for nine weeks afterwards, and a mass like a large slough came away. Various operations had been performed in vain for the cure of the fistula, and the patient had been wretched for fifteen years. The defect extended almost from the cervix to the meatus. At its upper part it was a longitudinal fissure a quarter of an inch wide, then it suddenly expanded to a large opening, and lower still narrowed down to another longitudinal channel, formed by the destruction of the urethral wall. In the first operation the sides of the upper part of the opening were stitched together, and flaps were dissected up to make an artificial urethra, as in the former case. The former part of the operation succeeded, but the latter failed. On April 6th the operation on the urethra was repeated, and this time was successful. On May 16th the operation was performed for the closure of the main defect. Wedge-shaped flaps, cut very deeply, were dissected up from the sides of the vagina somewhat as in the former case, and were united to each other in the centre, although toward the lower part the tension was considerable. A drainage-tube of spiral wire was placed at one of the outer angles. The defect was successfully closed, except an aperture of the size of a barleycorn just in front of the cervix. An attempt was made to cure this by cauterisation, but without effect. In August an operation was repeated by flaps cut in the same way, but on a smaller scale, a drainage-tube being again used. This was quite successful. quantity of urine retained gradually increased. The patient now never wetted her bed, and could retain eight or nine ounces of urine.

The President said that Mr. Tait's cases were remarkable not only for the skill displayed in them, but for the extraordinarily fortunate result which had followed. He asked whether any difficulty had been found from the phosphatic deposits, which often gave so much trouble in these cases, and whether any treatment was of avail to

remedy this condition.

Mr. Lawson Tair said that this difficulty had not occurred in the cases now recorded, but in the former one he had found the prolonged administration of mineral acid useful.

Dr. Aveling said that the injection of a weak solution of nitric

acid twice a day was of use in this condition.

Dr. CLEVELAND asked if it were really necessary to have the sutures in place without looking at them so long as was done in Mr. Tait's cases. Last year he had watched a case of cleft palate in which the sutures were left in for a long period, and a good deal of ulceration had been caused in their track. He thought it preferable to remove them sooner.

Mr. Lawson Tarr said that the patient was extremely troublesome, and nothing could be done without the administration of an anæsthetic. This was his reason for leaving them so long, but he had

never found any harm result from such a practice.

Dr. Marion Sims said that, when plenty of tissue was available, the operation was so easy that no one ever thought of reporting cases. But cases like those of Mr. Tait were generally thought incurable, as far as regards the restoration of retentive power. Mr. Tait had introduced a new principle, that of turning back flaps to form a new urethra. At the Women's Hospital at New York they had only attempted to make a new passage by means of puncture through the tissues. As to phosphatic deposits, they never occurred unless there were ulcerations present. This might be cured in forty-eight hours by a solution of nitrate of silver. He thought that the sutures need not be left longer than eight days. If they were so left a degree of inflammation and ulceration occurred, and fistulous openings might be left in the track of the sutures, which sometimes did not heal. This was so in one of Mr. Tait's cases. He thought that Mr. Tait, the Society, and Humanity might be congratulated on the success obtained.

Dr. Heywood Smith asked as to the mode of introducing the sutures, whether by a small curved needle passed through the two sides of the aperture successively, by a long needle passed through both flaps at once, or by a hollow needle. He asked also as to the fastening, whether the wires were twisted close, or any appliance, such as Aveling's coil, were used. He mentioned a case lately under his care, and published the other day. The patient had been operated on seventeen times at different hospitals. After the operation by himself, she left the hospital quite dry, but perhaps owing to the speculum used at the operation having been too small, a small aperture at one side afterwards showed itself. This was afterwards exposed with a Sims' speculum, and closed by three sutures, Aveling's coils being used. The patient was sent out on the second day. At the end of a week she remained quite dry, and the sutures were to be removed after ten days.

Mr. Lawson Tair said that he did not use any special needle. He liked a tubular needle very much in ordinary cases, though the

common ones had the disadvantage of making too large an aperture. He had had some very fine ones specially made in Paris. These he used with perfectly pure silver wire, taking care that his assistants did not pull it about. Often the best needle was that of the late Professor Simon, whom he regarded as the most successful operator for vesico-vaginal fistula whom the world had ever seen. Since he had once removed a kidney to cure a fistula, we need never despair of

operative relief for that defect.

Dr. Murray mentioned a case which had been lately under his care. After delivery by forceps, the whole vagina had been thrown into a common cloaca with the bladder. During the process of cicatrisation the os uteri had become enclosed in the bladder, and could not be felt per vaginam. After dilatation the os uteri was reached, but no tissue could be obtained to close the defect in the base of the bladder. He therefore decided to close the vagina by colpokleisis, and allow menstruation to take place through the bladder. The first operation failed, but it was repeated with the aid of Aveling's revolving needle and coil suture; and up to the present time, two weeks since the operation, had succeeded perfectly. The patient had menstruated through the bladder, and was able to retain her urine for two hours.

A Case of Rupture of the Uterus.

By Dr. HICKINBOTHAM.

Mrs. A. X., aged thirty-two, was in the ninth month of pregnancy. While standing on a chair she fell heavily. Profuse hæmorrhage occurred from the vagina. She became blanched and pulseless. On vaginal examination an opening was found in the posterior aspect of the uterine wall, through which the placenta could be felt. The opening at first felt like the os uteri, but the true os was discovered one inch in front and undilated. Aveling's transfusion apparatus was sent for, but the bulb was found to be cracked, and the instrument useless. A large sponge was then pushed into the wound, and stimulants and opium were given. Next morning labour came on, and dilatation of the os commenced. By digital manipulation the stress of the dilating force was directed upon the true os, instead of the artificial opening. The child was born alive. About one-sixth of the placenta was found to be flattened by pressure, and had evidently been attached low down. The patient did well, with the exception of slight phlebitis.

As to the explanation of the mechanism of the injury, the author thought that the woman, in falling, struck her abdomen against the chair, and that the uterus gave way at its weakest part, which happened to be that opposite the blow, and at a point where the placenta was abnormally attached. He had never seen such copious hæmorrhage, nor a patient who eventually recovered remain so long pulse-

less. If he had performed transfusion he should certainly have concluded that life had been saved by its means.

The President said that the case was a most interesting one, and that the report was remarkable for not containing a single irrelevant fact.

A Case of Rupture of the Uterus.

By Dr. SKINNER.

The patient was twenty-three years old, and was pregnant three months. She went to work in the morning, and in the afternoon paid a visit to some friends. While there, towards evening abdominal pain came on. She was first put to bed, and later, as she was becoming worse, was put into a cab, and brought home in a dying condition. On her arrival the os was found to be closed, and there was no hæmorrhage outwardly. She died in a few hours. At the autopsy a clot was found in the abdomen, reaching as high as the umbilicus, and in the midst of it a three months' fœtus, together with the placenta. In the upper and anterior part of the body of the uterus was a rupture one and a half inches long. The uterine wall in this position was thin and soft. There was no sign of violence, nor any history pointing to such a cause. The patient had had one child previously. She had been laid up in bed a day or two before with abdominal pain.

Dr. Braxton Hicks mentioned a case which he had recorded some years ago. A woman aborted, and the fœtus came away by the vagina, but the placenta was retained. No interference was undertaken for two or three days, and then sudden collapse and death occurred. At the autopsy this was found to be due to rupture of the The ovum had been contained in a cavity in the uterine wall. The fœtus had broken out into the uterus and escaped, and later another rupture had taken place through the outer wall into the peritoneal cavity. He thought at the time that it was a case of interstitial pregnancy, but was now disposed to believe that it was rather a kind of hernia of the uterus, produced by the yielding of a weak part of its wall. In another case, which he saw only when the patient was in extremis, a woman had fallen down stairs. The uterus had ruptured just above the vagina, and the fœtal head had escaped through the rupture. The uterus had then retracted itself completely off the fœtus.

The President remarked that nothing was said in the report of Dr. Skinner's case about the decidua, the placental site, or the condition of the uterine wall on microscopic examination.

Mr. Lawson Tait mentioned a case at present under his care. Six weeks ago he was called into Wales to see a lady ten days after delivery. The abdomen was distended by some substance so greatly

as to interfere with breathing. The uterus was fixed, evidently by an effusion of blood, since there had been no rise of temperature. He tapped, and removed three quarts of pure blood, leaving behind a doughy mass, supposed to be clot. He then had the patient removed to Birmingham. The diameter of the abdomen again increased three inches, and he then tapped a second time, removing a fluid containing a large proportion of blood. He proposed to open the abdomen, turn out the clots, and search for the source of the hæmorrhage, which he believed to be a rupture of the uterus. He thought this treatment indicated, since so much could now be ventured under the antiseptic method. He asked the opinion of the Society upon the case.

Mr. SQUIRE mentioned the case of a young lady in whom, after rupture of an ovarian cyst, the abdomen became so distended as to compress the lungs. Mr. Spencer Wells operated, cleared out the

abdomen, and she did very well.

Dr. Gordon asked whether there had been any difficulty in delivery,

and how soon after delivery the symptoms had commenced.

Dr. Malins said that the case was interesting, clinically as well as pathologically. He had seen a case of almost immediate death from a small rupture in the uterus. Dr. Blundell, in one case, after upture of the uterus, passed his hand up and turned and delivered a child which had escaped into the abdomen. This patient recovered. Why was such a result so rare? Probably it depended on whether septic material had gained access to the peritoneal cavity or not.

Dr. HEYWOOD SMITH asked what had been the condition of the

lochia, and whether the patient were blanched.

Mr. Lawson Tait said that there had been no difficulty in the labour, but the symptoms began immediately after delivery. The lochia had been normal. The patient was much blanched.

A Case of Puerperal Convulsions.

By Dr. GREENE.

The patient was nineteen years old, single, and was supposed to be at the full term of pregnancy. Convulsions commenced at 2 A.M. When the author saw the patient, she was insensible, and almost in collapse, the pulse weak and compressible, the tongue almost bitten through. The temperature was not taken. During a fit the uterus became firmly contracted, but the os had not begun to dilate. The presentation was normal. The examination excited another convulsion. As there was no cedema, the author concluded that the fits were reflex rather than anæmic, and decided to treat by means of morphia suppositories. The condition improved for a time, but at eight o'clock the next morning a fresh paroxysm occurred. The child was found to be just expelled, and the placenta in the vagina. The pulse was then 90; temperature normal. No recovery of con-

sciousness took place until an hour after delivery, and then it was quickly followed by relapse. At 2 P.M. the fits had recurred, and were becoming more frequent and severe. The author found that the bromide of potassium ordered had not been given, and that a blister applied to the head had dropped off. Another morphia suppository was therefore given. In the evening the patient was conscious, and bowels and bladder had been relieved. Morphia suppositories were continued on the two following days, as the fits recurred when their effect had passed off. After four days there was no return of them, and the patient became convalescent.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, Dec. 12th, 1877. Dr. DAVID WILSON, President, in the Chair.

THE following gentlemen were elected Ordinary Fellows of the Society:—John Archibald, M.B.; David Harr, M.B.; John B. Millar, M.B., C.M.; James Murphy, M.D.; Andrew Balfour, M.D.; David Menzies, M.B., C.M.

J. Matthews Duncan, M.D., was unanimously elected an Honorary Fellow.

The President exhibited the heart and lungs of a child, fourteen months old, to whom he had been called after death. The child was well nourished, but had always been rather livid, and its extremities cold. It had had repeated attacks of faintness, and in one of these it expired. The lungs seemed never to have been properly expanded, and the heart showed a distinct communication between the ventricles. The aorta appeared to arise from both ventricles, and there did not appear to be any pulmonary artery. It would be observed that there was a distinct communication between the ventricles.

Occlusion of the Vagina. By James Young, M.D.

There are many malformations of the female organs of generation which obstetric surgeons are called on to treat from time to time.

Occlusion of the vagina may be caused by malformation of the hymen—perforate or imperforate—from imperforate vagina; or, as I have seen, from a central septum between the vulva and the os uteri. Cases are met with occasionally where the cervix uteri is imperforate or absent—not to mention the entire uterus.

In the following brief paper, I shall first refer to occlusion arising from persistent hymen—then from imperforate hymen—passing on to those forms of malformation *seriatim*, which may be either congenital or accidental, resulting from disease or otherwise. The vaginal

membrane is almost always present at the rima vulvæ in greater or less degree. Much inconvenience may arise from that form of malformation where the hymen is spread over the entire opening, leaving a small perforation at its upper margin, as I shall specially illustrate

by cases which have come under my observation of late.

Case I.—Miss L., aged twenty-seven, suffered greatly from dysmenorrhæa, accompanied by a difficulty in regard to the flow of the catamenia. She menstruated at fourteen years, and continued regular as to time, but each period lasted ten days. I suspected some hymeneal obstruction, and made a digital examination. There was a firm, tough, and persistent hymen, which, on more careful examination, was found to be perforated; but the aperture was extremely small, fully accounting for the delay in the menstrual fluid. I succeeded in rupturing the membrane with the finger, and introduced pledgets of lint, soaked in carbolic oil. The patient made a good recovery. Subsequent to the operation each period lasted only four days. She is now married, but I have not seen her since.

CASE II.—In November, 1876, I was consulted by a young lady, Miss D., aged twenty-four, who stated that she was too long "unwell" at her usual periods, and attended with considerable pain. It seemed from her own description that the discharge was prevented from "coming away" owing to some obstruction. She was subject to hysteria. A tonic mixture of the citrate of quinine and iron was prescribed, and the frequent use of the sitz-bath was recommended. I did not see her again till the beginning of October, 1877. She had been married four months. Mrs. - informed me that her medical attendant in the country had advised her to come to town, as there was "something wrong with the womb." On making a digital examination I found a firm, persistent hymen, occluding the whole vagina. Mrs. --- stated that the catamenia had appeared regularly, but the discharge was scanty, and continued for twelve days. making an ocular examination I detected a small aperture immediately below the meatus urinarius, about the size of a silver probe. Marital intromission had been attempted, but never had proved un fait accompli, the hymen being tough and unyielding. I attempted to rupture with the finger, but failed. On the following morning the labia majora having been well separated by the nurse, and having emptied the bladder with the gum-elastic catheter, I passed a probepointed bistoury into the hymeneal aperture, and cut down a quarter of an inch. I speedily separated the whole membrane with the finger down to the fourchette, and dressed the rima vulvæ with carbolised lint. The patient made a good recovery.

Case III.—I have seen one case of congenital vaginal occlusion, where the rima was quite patent, but where the finger was arrested by a firm, dense membrane, not imperforate, the cervix uteri being easily felt through the central septum. The patient had been twice married without issue. I examined her lately. No operation had ever been

attempted, or, so far as I am aware, ever been proposed.

Case IV.—I have had one case of true imperforate hymen. Amenorrhoea led the patient to seek relief from the distressing symptoms of retention. The operation was simple and easy, somewhat similar to Case II. The discharge was dark and disagreeable, but the cure was complete, and unattended by any untoward result either from local inflammation or fever. Antiseptic injections were freely used, and a weak solution of ozonised salt gave the patient grateful relief.

Case V.—I have never seen any case of atresia where the whole vagina was imperforate beyond the rima vulvæ; but some instances have come under my notice where the vagina was very short and

small, precluding marital intercourse.

Case VI.—In regard to the subject of *imperforate os uteri*, let me say that only one case has come under my notice in my own practice. An operation was successfully performed with the aid of a trocar and canula; but whether the occlusion was congenital, or the result of

local inflammatory adhesions, I cannot tell.

In regard to the possibility of pregnancy occurring in cases of occlusion of the vagina, I hold by the negative. Marital intromission may have been partially performed in *certain* cases; and in *some*, where the perforation has been large, I allow that impregnation has resulted; but as for the rule, I hold, notwithstanding the views of Merriman, Crosse, and others, *ut supra*. Successful coition has frequently taken place per urethram, and spermatozoa may have found

an entrance by the perforation in the hymen.

Let me say, that in certain cases of amenorrhoa, I consider it very important to make a vaginal examination, lest we might pass unnoticed certain malformations which have been referred to in this paper, remembering as our motto—Periculum in morâ—anomalies in menstruation are ever coming under the observation of obstetricians. Amenorrhœa may arise from many other causes than malformation, both in married and unmarried ladies. Two cases may suffice on this branch of the subject. Mrs. R. was married on the 29th of July, 1867, at the age of twenty-four years. She gave birth to six children in Ross-shire, between that date and 1st of September, 1877—ten years and two months-during which time the catamenial flow appeared eight times. From March, 1869, to September, 1877, she had never been once "unwell." I am aware that such cases only prove that the process of ovulation may take place independently of menstruation, but Mrs. R. did not even menstruate after her children were weaned, and she again became pregnant. The other case is one of much greater interest. Ellen Angus, aged twenty-nine, consulted me on the 1st of October, 1877, in consequence of some chest affection. She stated that she had never menstruated at all. She never lost blood in any way, and never suffered from leucorrhea; she looked delicate. I found the vagina healthy, and the uterus in every way normal. Her mother and sisters had menstruated regularly; her aunt-father's sister-never once menstruated all her life, and is now seventy-one years of age, and quite well.

Dr. Underhill thought all the cases related by Dr. Young were of interest. He could not agree with him, however, that perfect intromission was necessary to conception, and that therefore a tight hymen rendered pregnancy impossible. He related a case in which during delivery there was great laceration of the parts, which was afterwards cured by operation, leaving an opening so small as barely to admit a surgical probe, yet conception followed in this case.

Dr. Croom mentioned a somewhat similar case, in which the whole of the vagina was closed by cicatricial tissue, yet the patient became

pregnant, the cicatricial tissue ultimately disappearing.

Dr. SIMPSON agreed with Drs. Croom and Underhill as to the possibility of impregnation with an almost imperforate vagina, or a condition which was even met with occasionally among the causes of delayed labour. Dr. Young's cases of firm persistent hymen were most interesting. He (Dr. Simpson) had had in his ward two or three years ago a very distressing case of imperforate hymen. A woman, thirty years of age, was turned out of doors by her husband on the night of her marriage, because he found he could not effect intromission, and fancied she was not like other women. The shock sent the poor woman into a condition of complete dementia. Probably there was some impotence on the part of the husband, because when a sound was passed through the minute aperture in the hymen, that structure was easily scratched through with the finger-nail. The patient was afterwards restored to her senses and to her husband. Another case he mentioned in which a patient, aged thirty-five, had been married some time, and yet the hymen was unruptured. He dilated the orifice with a series of rectal bougies, and the lady conceived immediately afterwards. He had seen a considerable number of cases where the vagina was occluded sometimes from various kinds of malformation, and sometimes from injury.

Dr. Young briefly replied, thanking the Society for the reception given to his paper. He did not deny that pregnancy might occur, although intromission was very impartially performed, but in such

cases pregnancy would happen accidentally.

Successful Operation on a very Large Vesico-Vaginal Fistula, occurring in a Child eight years of age.*

By the late Professor Dr. GUSTAV SIMON, of Heidelberg.

The following diseased state, in which a very large defect in the bladder was present, was caused by an immense urinary calculus suppurating through the vesico-vaginal wall. The calculus weighed 45 grammes (693 grains). The cure was brought about by the successful treatment of such cases by Professor Simon, and might well claim the interest of the profession, not only on account of

^{*} Communicated by Dr. J. J. Kirk Duncanson.

its rarity, but as showing the perseverance, skill, and energy of the

operator.

In the first place, a vesical calculus of the size mentioned above is a rare occurrence in the female child.* Still far more rarely does suppuration of a vesical calculus through the vesico-vaginal wall take place, and there exists no example in the literature where the closure of a defect in the vesico-vaginal wall in a child has take place through the use of the suture. Fergusson and Paget (of Leicester) endeavoured in vain to close a wound made by incision in the vesico-vaginal wall.

Anna Niemaier, from Sulten, near Stavenhagen, in Mecklenburg Schwerin, was, on account of disease from stone and involuntary flow of urine, received into the hospital at Rostock on the 8th of September, 1866. The patient was eight years of age, and had suffered for the last year from an involuntary flowing of the urine. She was, only shortly before her reception into the hospital, examined with the catheter, and on this account the cause of her sufferings was not known until then. Only her last medical attendant, who had seen her a fortnight before us for the first time, had used the catheter, found the stone, and sent the patient to us for operation. She was on account of her sufferings very much reduced, was pale and haggard. The clothes were wet by the continual outflowing of the urine, and the pains in the bladder were so great on moving that the little patient wished only to sit or lie. We made an examination under chloroform-narcosis. By the introduction of the catheter we came upon a very large vesical calculus immediately beyond the urethra, which was almost entirely firmly surrounded by the walls of the bladder, as the person using the catheter could not move it although using considerable pressure. But we felt the stone not only by the urethra, but also by the very narrow vagina; and there was therefore no doubt the stone had broken through the vesico-vaginal wall, and so had caused the involuntary flow of urine through the vagina. We now endeavoured above all to remove the stone through the vagina, but the stone was so large and the vagina so narrow, the extraction was only successful after we had broken it into many pieces by using the lithotrite, &c. It was composed of urate of ammonia and phosphates, and weighed $1\frac{1}{2}$ unzen = 45 grammes (693 grains). After its removal we found an angular defect in the vesico-vaginal wall, the anterior end of which reached within one centimetre of the orifice of the urethra, and stretched on the right side of the vesico-

^{*} The straight direction, the width, and especially the shortness of the urethra in the female child, as well as in grown-up females, explains why vesical calculus occurs much less frequently in girls than in boys. Whilst vesical calculi are very frequently met with in boys (for instance, in Sir H. Thompson's collection of 1827 cases of lateral operation for stone, 475 are in boys of from 1 to 5 years, and 377 are in boys of from 6 to 11 years), besides the two cases, to be detailed afterwards, of vaginal operation for stone in vesical calculus, I have only yet found one statement by Fergusson, according to which this famous surgeon has performed lithotripsy in several female children with the best result. Lancet, 1862, vol. ii. p. 388. I found the notice in Langenbeck's Archiv, Bd. v. p. 365.

vaginal wall up to the neighbourhood of the lip of the os uteri, then turned aside at a right angle to the left, and ended in the left vaginal pouch. The defect in its angular course measured $5\frac{1}{2}$ centimetres in length, whilst its greatest breadth amounted to 1 centimetre. In the corner of the defect one could recognise in the fallen forward mucous membrane of the bladder the opening of the right ureter. The edges were extremely thin, and the mucous membrane of the bladder fallen forward.

I undertook the operation, notwithstanding its uncommon difficulty, which could be easily seen beforehand, to bring the defect at the present time to a closure, for if we wished for more favourable circumstances in the patient—i.e., if we waited for a better development of the parts on which we must operate—the patient would be doomed to suffer for many years the most disagreeable continual involuntary outflowing of the urine. The carrying out of the operation, however, I still delayed for two months, whilst I hoped the defect would become much less by cicatricial contraction. This, however, had very little effect, and the opening remained in relation to the smallness of the parts still so large that I did not believe I should be able to bring about the healing in one operation. By the first operation, on the 10th of December, 1866, I therefore united only the anterior portion of the long fissure up to its middle. The greatest difficulties arose from the inaccessibility of the defect, because the vagina was of course uncommonly narrow. The posterior wall of the vagina was pressed down by a flat speculum only 1 centimetres broad, the side walls were kept asunder by using the smaller spatulæ for the vagina, and the parts surrounding the fistula were drawn forward with small sharp hooks so far that the exact carrying out of the rawing of the edges and the insertion of the stitches could be properly accomplished. The rawing of the edges was made in a sharply oblique direction, and the union restored by six stitches, for which we used the double thread of the finest number of Chinese silk. Union took place. In a second operation in February, 1867, the still remaining portion of the antero-posterior defect and the cross opening joining on to the antero-posterior defect at nearly a right angle were united with nine stitches. The execution of this operation was, on account of the deeper situation of the part of the defect to be closed, still far more difficult than the first operation. The edges were again pared in a sharply oblique direction, and there were added to the uniting stitches several sutures to relieve the tension. In spite of considerable dragging on the edges, union took place in all, except a small fistula in the united antero-posterior defect. On the 2nd of July, 1867, I endeavoured to close up this opening also by uniting it in the transverse direction with four stitches. Union did not take place on this occasion. The child, immediately after this operation, was seized with a violent fever and diphtheritis of the mucous membrane of the vagina. The stitches could only be removed a fortnight after the operation, because I could not find them, owing to the narrow vagina being so closed up with

membranes. After two months the vagina was again clean, and the patient without fever. She was, however, through the illness, very much reduced, and fallen away to a skeleton. The defect was so considerably enlarged that one could easily introduce the index finger into the bladder. The edges were still thinner than before, and the mucous membrane of the bladder was again pressed forward into the vagina. Under these circumstances no repetition of the operation was to be thought of, and I, on that account, dismissed the child, so that I might at a later time, when she had completely recovered and become strong, take her again under treatment. On account of my removal to Heidelberg at Easter, 1868, the return of the patient to my treatment was delayed until January, 1869. fistula had, during the one and a half years I had not seen it, become very little less, the edges were very thin and cicatricially changed, and the opening stretched from the urethra till quite near to the os uteri, so that, of the original defect, there remained still closed only the posterior transversely running portion. On the 14th of January I united the fistula with eight fine silk stitches in the longitudinal direction, and made a long incision, to reduce the tension on the stitches, into the parts beyond the anterior wall in the side wall of the vagina to the right. Union took place in all but one little opening, which happened through the too quick cutting through of one thread in the strongly stretched thin walls. On the 23rd of August I united this little opening in the longitudinal direction by four stitches. To relieve the tension there was again made in the neighbourhood of the defect in the side wall of the vagina a deep parallel incision. On the fourth night severe hæmorrhage took place from the vagina. In order to stop the hæmorrhage the little patient was brought into the operating theatre and placed on the operating table on her back, with the buttocks raised, when it was found that the bleeding came from the lateral incision made to relieve the tension from the stitches. The bleeding was stopped through compression with a tampon of charpie, which was pressed into the incision with a pair of long forceps for at least ten minutes. When, on the fifth day, the stitches were removed, it was found that the fistula was entirely healed. The continence of the urine was, however, not yet complete with the patient. The cicatrix, which extends to very near the orifice of the urethra, appears to interfere with the functions of the sphincters. In lying, in standing, and in the making of slow movements, the patient can completely retain her urine; but in making more violent exertions, and in quick walking, her clothes are soaked through by the involuntary flowing of the urine. The cure was complete before the end of the

In the literature at my command I found only two cases of vesicovaginal fistula which have been observed in children. But these were not, as in our case, caused by the suppurating through the vesicovaginal wall of a stone, but by the incision used for the extraction of a stone. The wounds, which made a communication between the

bladder and the vagina, did not heal, notwithstanding that they, as a matter of course, offered far more favourable conditions than in the case operated upon by us. The cases are the following:—Fergusson (see Lancet, 1862, vol. ii. p. 387) had removed from a child of nine and a half years a mulberry calculus of the size of a walnut, by an incision from the vagina made by introducing a straightgrooved sound into the bladder, and after dilating the narrow vagina with the finger, passing a knife into the groove immediately behind the neck of the bladder, and making an incision $\frac{3}{4}$ in, long, which was afterwards still further dilated by means of the small extraction forceps. In order to bring about union, silver sutures were used to bring the edges together, and these were removed on the following day. But there remained a fistula of a size sufficient to admit the point of the index finger with complete incontinence of urine.*

Further, James R. Lane, in speaking of the vaginal incision for stone (Lancet, 1863, vol. i. pp. 34-57), mentions that Paget of Leicester had performed the vaginal incision operation for stone in a child of three years of age. The urethra was, in the case of this child, laid open in its whole length, and the stone removed. But the intended suture could not be applied. There remained a permanent incon-

With little children the difficulties are much more considerable than with grown-up people, on account of the smallness of the parts through which, and on which, we have to operate, and on account of the thinness of the vesico-vaginal wall; therefore the expectation of success must be so much the less, the greater the defect is which is to be brought to a closure. Nevertheless, we have in our case, in which the vesico-vaginal fistula had comparatively a very considerable greatness, through perseverance and the application of our method of operating, which we have found also with grown-up people to be the best, overcome all difficulties, and obtained the healing of the fistula † The paring of the edges was performed in a sharply oblique direction, towards inwards, and the advantages of this method of paring or rawing the edges were seen here in the most striking manner. It was only possible by that and the using of sutures, so as to relieve the tension from the stitches used to bring the edges into

^{*} Unfortunately the above-mentioned number of the Lancet is not at my command; I know the case only through the above given notice which I found in Gurlt's Jahresbericht in von Langenbeck's Archiv für klinische Chirurgie, Bd. v. † See Gurlt's Jahresbericht in von Langenbeck's Archiv, Bd. viii. I know this case also only from Gurlt's Bericht.

[‡] This procedure is described in my writings, "Ueber die Operation der Blasenscheidenfisteln durch die blutige Naht," Rostock, 1862; and, further, in "Mittheilungen aus der Chirurgischen Klinik des Rostocker Krankenhauses," ii. Abtheilung, Prag. 1868; and lastly, in Nos. 45 and 46 der Deutschen Klinik vom Jahre 1868 in dem Aufsatze, "Historisches über den operativen Verschluss der Scheide durch Vereinigung der Scheideewandungen (Kolpokleis), nebst Bemerkungen über den Standpunkt der Operation der Blasenscheidenfisteln in Deutschland.

close contact, as well as the use of incisions pretty deep into the neighbouring parts, to bring the edges into close contact on all sides. These latter were made in the parts where the anterior and lateral walls of the vagina may be said to unite. On account of the thin edges and the strong stretching to unite them, the stitches always cut very quickly through; but seeing we used very fine threads, there remained behind only once a small penetrating opening which was produced by a stitch. As in all our fistula operations we used here also the finest number of Chinese silk, and, indeed, in most of the sutures single, only in a few we used it doubled. For the aftertreatment the catheter was not kept in permanently; it was not even once used to empty the bladder now and then. The patient passed her urine of her own accord into a basin pushed under her. In the course of the treatment there occurred two disturbing causes to the cure, namely, diphtheritis after the third, and a hæmorrhage after the last operation. The diphtheritis of the vagina frustrated not only the result of the third operation, but effected also a further loss of substance, which enlarged again considerably the already muchlessened fistula. Also the after-bleeding from the vagina was very disquieting, for it made the patient anæmic, and by the dilating of the vagina, which was necessary in searching after the bleeding point, and in the application of the means for the stopping of the blood, tearings on the newly united edges of the wound could scarcely be avoided. But still, in the last instance, they did not injure the successful result.

The healing of this fistula with so exceptionally thin walls ought to be a new demonstration of the correctness of the after-treatment without the catheter lying permanently in the parts, which I intro-

duced into surgery.

Professor Simpson thought the case quite unique and of extreme interest. He had neither seen nor heard of a similar one. He had met with a case of vesical calculus, which was making its way from the bladder into the vagina; the opening was enlarged and the calculus removed; the aperture was closed by means of metallic sutures. In another case, that of an old woman with prolapse of the anterior vaginal walls, concretions had formed in the bladder and were readily detected by the sound; the urethra was dilated, and a calculus the size of a walnut removed; a second calculus was then detected, twice the size of the former one; this being laid hold of with the forceps it was found impossible to extract per urethram; the urethra and anterior vesical wall were therefore incised, and Incontinence of urine resulted; some weeks removal effected. elapsed, and the patient returned, when it was decided to pare the edges of the fissure and stitch them together. The result was perfectly satisfactory. In this case, had he known in the first instance that two calculi were present, he would at once have cut through the bladder wall and extracted. On this occasion he had not used thread sutures, having had a series of very successful results from the use of metallic ones. Referring to the use of the catheter in such cases, he stated that he had sometimes dispensed with its use altogether.

Dr. Matthews Duncan communicated, through Dr. Underhill, a paper entitled "Note on Two Contrasted forms of Weak Labour,"

which appeared in the Obstetrical Journal, vol. v. p. 705.

Dr. Croom thought the paper one of great interest. The second class of cases of inertia was newly described and practically of much

importance.

Dr. Underhill thought the interest of the paper lay in the second class of cases of inertia, as described by Dr. Duncan. It would, he believed, stimulate us to investigate these cases in our practice.

Dr. SIMPSON thought one of the chief points of the paper was the relation which the second class of cases bore to rupture of the uterus. In such cases, when the uterus goes on contracting over the child without expelling it, and merely producing an over-expansion of the cervix as described by Bandl, it was somewhat difficult to explain how this could occur in the absence of any obstruction. Perhaps there may have been resistance from rigidity of the os externum, which yielded only after the distension of the cervix and retraction of the body of the uterus had taken place. The subject was an interesting one for observation.

Dr. Duncanson mentioned a case of the second class which he

had met with in a primipara, aged thirty-three.

After a few remarks from Drs. CRAIG and RATTRAY, the discussion closed.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, June 16th, 1877. Mr. Darby, President, in the Chair.

Case of Pregnancy, complicated with large Uterine Fibroid—Delivery, at full time—Hæmorrhage—Recovery.

By J. A. BYRNE, M.B., &c.

On 21st April, 1876, I was sent for by Dr. Finegan, of Glasnevin, to see a patient living about five miles from town. When I arrived I found that the lady had been delivered of a fine full-grown male child, after a labour not very prolonged. The child had presented by the feet, and although Dr. Finegan used the greatest skill and celerity in managing the labour, the child was dead-born. After the delivery of the child, Dr. Finegan remarked that the uterus did not appear much diminished in size, and he made the usual examination to test for the presence of a second, when, to his astonishment, he did not perceive any presentation, and then alarming hæmorrhage

set in. He removed the placenta, and endeavoured to arrest it. In doing so he became conscious that the uterine enlargement depended upon the presence of uterine fibroids. On my arrival the lady was extremely reduced and weakened, and the hæmorrhage was still going on. The first thing which I did was to introduce my hand into the vagina and thence into the uterus, and in doing so it passed on for a considerable distance, and I became aware of the existence of at least three large tumours, one occupying the fundus uteri, and one at each side. Each was as large as an orange, and there appeared to be some smaller tumours also; they were interstitial, and the structure of them was quite different from that of the neighbouring uterine tissue, being much more firm. The emptied uterus at this time reached almost to the umbilicus, and this enlargement was produced partly by the tumours, preventing, on account of their presence and size, the uterine contraction, and partly by the tumours themselves, which were of great magnitude. I injected the uterus with the solution of perchloride of iron, having previously removed some large coagula. By this the hæmorrhage was quickly arrested, and, brandy being given, the syncope was soon over, and an opiate was administered. It is unnecessary to occupy the time of the Society by detailing the subsequent history of this patient; it is sufficient to say that she was attacked by inflammatory symptoms which terminated in phlebitis and swollen leg. She recovered under the care of my friend, Dr. Finegan; and, through his kindness, I had an opportunity of seeing this lady in about two months afterwards. At this time she was quite well, with the exception of a slightly cedematous condition of the left foot and leg, the result of the phlebitis. The uterus was large and extended for some distance above the pubis and into each iliac region, and was irregularly nodulated. She had menstruated once since her confinement, and as the second period had passed, I did not explore the uterus, fearing that she might be pregnant, but contented myself by a mere vaginal examination. The uterine enlargement could be felt in the pelvis, posteriorly and laterally, and was evidently caused by the fibrous masses which protruded themselves into the pouch of Douglas and to the sides. I expected to have had an opportunity of further examination, but the lady did not return. Dr. Finegan has informed me, however, that she has not become pregnant since. She had consulted some eminent men in the city before her confinement—I was informed by her husband and she had been only a very short time married when conception and pregnancy occurred. She never suffered from hæmorrhage.

If I may be permitted I will briefly draw the attention of the

Society to some interesting features in this case—

1. The occurrence of pregnancy with so large a tumour, or tumours.

2. The carrying of the fœtus to the full period of pregnancy.

3. The possibility of a living child being born under such circumstances.

4. The arrest of the hæmorrhage under such a complication of circumstances.

5. The recovery of the patient.

It appears to be a wise law of nature that, when the uterus is the seat of those tumours, conception is not a usual consequence, but this is not always the case, and many remarkable instances are on record of pregnancy in connexion with fibroids. It would appear that the possibility of its occurrence depends to some extent upon the situation of the tumour, and also upon its size, and the effect of its size and situation in producing alteration of position in the uterus itself or flexures in the canal, and upon the freedom from attacks of

uterine hæmorrhage.

Now, it is possible that in the case which I have described, the situation of the tumours may have kept the uterus *in situ*, or at least may not have allowed much alteration in the relation of its cavity. If there had been only one tumour—say, in the fundus uteri—it is possible that its weight might have caused prolapse and anteversion or retroversion of the uterus, and in this way sterility. Again, if the tumour had only been in one of the walls of the uterus, it might have caused a displacement in the opposite direction, and consequent sterility; whereas by the tumours being, as it were, placed at what appeared to me equi-distances from each other, or nearly so, they acted as supports, and prevented much alteration in the relative situation of the different portions of the uterus.

Now we know the fibroids and polypi of the uterus, even when small, are generally incompatible with pregnancy, and when pregnancy does occur they generally lead to abortion, after a very short period of feetal growth; in fact, the want of simultaneous growth of the uterus, and the new development during pregnancy, leads in general to hæmorrhage, and the death of the fœtus, and its subsequent expulsion. It would be a very interesting question to decide, whether a woman labouring under a small interstitial fibroma of the uterus, has a greater or less chance of reaching the full term of gestation, than a woman who is the victim of so large a tumour or tumours as I have described; but not only are we aware that small fibromas or myomas are a most frequent cause of abortion, but also that they are a most frequent cause of subsequent hæmorrhage—hæmorrhage which has often been fatal. It would appear as if the small fibroma prevented any expansion of that wall in which it lay embedded, whereas the larger tumour permitted more expansion.

There are some very interesting cases recorded, not only of pregnancy occurring, but even of multiple pregnancy in women the subject of large fibromata uteri. One of the most remarkable occurred when I was assistant in the Rotunda Lying-in Hospital, during the mastership of my friend, Dr. M'Clintock, which, with the permission

of the members and you, sir, I will briefly detail.

The case is fully described at page 117 of Dr. M'Clintock's book on Female Diseases.

A woman, aged thirty-six, was delivered in the country of a female child, dead and putrid. She was conveyed to the hospital forty-eight hours afterwards, where she was delivered of two more children born alive. She subsequently sank from the combined effects of exhaustion and hæmorrhage; and on examination an enormous fibrous mass 7 inches long and $2\frac{1}{2}$ inches in thickness was found. [Dr.

Byrne exhibited a drawing of the tumour.]

In the r4th volume of the "London Obstetrical Transactions," page 227, a very interesting case is reported by Dr. Madge. A woman, forty years old, primipara, who always enjoyed good health, consulted him. On examination he made out eight distinct tumours, varying in size from that of a walnut to that of an orange. He diagnosed pregnancy, although extra-uterine foetation had been previously diagnosed. Pregnancy went on to the full time, and she was delivered by the forceps. After delivery he introduced his hand to remove the placenta on account of hæmorrhage, and he satisfied himself of the existence of a number of tumours. He mentions that in sixteen months afterwards he had an opportunity of examining the uterus, and he found that many of the tumours had become diminished in size.

We see, therefore, that it is possible not only for pregnancy to occur under the unfavourable circumstances accompanying fibromata uteri, but also that in these three well-authenticated instances pregnancy went on to the full period of gestation. We see that in Dr. M'Clintock's case, two living and one dead child were born—a fact of extreme interest; and we see that in the case related by Dr. Madge, pregnancy and delivery at the full time occurred coexistently with many fibroids scattered through the uterus. In Dr. Finegan's case, which I, with his permission, have related, there were three, if not more, very large tumours; pregnancy occurred, and delivery at the full term, and it is very presumable that if this child had presented naturally that it might have been born alive; for we know that in footling cases the delay, particularly in primiparæ, is often attended by danger to the child, and that were it not for this circumstance she might have had a living child.

This fact, then, is of importance to bear in mind—that pregnancy and gestation to the full period are not incompatible with fibroids of considerable magnitude; so that when asked our opinion in similar cases as to the possibility of pregnancy occurring in uterine fibroid disease, we may, unless the situation of the tumour be of the most unfavourable kind, give at all events a cautious one, and one not

absolutely destructive of hope.

It was a remarkable feature in this patient's case that she never suffered from hæmorrhage either before or after marriage, never complained of pain during or after menstruation, which occurred at the normal age—never, in fact, enjoyed a moment's bad health; and what led her to consult the medical men after her marriage was the fact of the non-correspondence of her abdominal enlargement

and her time of pregnancy, which began to alarm herself and friends.

As a cause of abortion in those cases of tumours of the uterus, Dr. M'Clintock, Dr. Barnes, and indeed most gynæcological writers, dwell upon the fact of hæmorrhage being in general the chief one, so that there is a reasonable ground of probability that in the event of pregnancy occurring in a case where the tumour is even of considerable magnitude, if hæmorrhage does not take place, the pregnancy may go on to its full termination, and the result may be favourable.

The case which I have detailed has a practical bearing also as regards the treatment used to suppress the hæmorrhage. It illustrates the utility of the solution of iron in those cases. This was one in which some fear might have been entertained as to the employment of this remedy, on account of the great size of the uterine cavity, which, by reason of the presence of the tumours, was prevented contracting to the usual post-partum size. No bad effects, however, followed its use, if we may except the inflammatory symptoms and phlebitis, which, however, may have depended upon other causes, and which might have arisen even had no such application been used. I myself have used the intra-uterine injection of iron in post-partum cases without ever seeing any bad consequences, although I am aware that dangerous results have followed its use, but I would not hesitate to use it again did I meet with a similar case; and I am certain that, were it not for its exhibition, the patient would not have recovered.

Meeting, Saturday, 17th November, 1877. Mr. Darby, President, in the Chair.

THE President delivered the following address:-

Gentlemen,—This evening brings the thirty-ninth year of this Society and my year of office to a close. Before I vacate the chair, to which you have done me the honour to elect me, I must ask you to accept my best thanks, and to allow me to say that when I bear in mind the fact that I am the only physician residing and practising out of Dublin who has been so highly honoured, the compliment is,

in my estimation, materially enhanced.

During the past year we have held eight reunions. At the first meeting Dr. Atthill delivered an interesting and eloquent address, and I must now endeavour, though with halting steps, to follow in his wake. At the subsequent meetings Dr. Atthill brought forward, besides his important report of the Rotunda Hospital, many cases of great interest; amongst others a case of post-partum hæmorrhage, which led to our having the advantage of hearing, from Dr. Robert M'Donnell himself, a description of the instrument invented by him for the transfusion of blood, and of the manner in which he applied it when performing that operation.

We had also-

Dr. H. Kennedy's paper on "Croup."

Dr. Boyd's paper on "Syphilitic and other Tumours affecting the Genital Organs."

Dr. Wilson's (U.S.) paper on "Strapping the Breast."

Dr. Purefoy's "Case of Extra-uterine Fœtation."

Dr. Denham's "Recent Specimen of Uterine Polypus."

Dr. Finucane's "Cases of Erysipelatous Metritis."

Dr. Doyle's paper on "Stimulants in Certain Cases of Uterine Disease."

Dr. Kinkead's communication on "Diphtheria."

Dr. Kidd's and Dr. More Madden's "Cases of Vesical Calculus in the Female"

Dr. Macan's "Case of Amputation of the Uterus."

Dr. Churchill's paper on "The Use of Scissors in the Removal of Uterine Polypi."

Dr. Russell's "Case of Puerperal Convulsions."

Dr. J. A. Byrne's "Case of Uterine Fibroid and of Intestinal Constriction."

These papers, brought forward at our meetings during the past session, afford abundant evidence of the interest taken in our proceedings, and of the vigour with which the Society accomplishes the objects for which it was founded.

Dr. Finucane's paper gave rise to a discussion into which the term "blood-poisoning" was introduced, and I find, on looking to the report on that discussion, published in the April number of the Dublin Fournal of Medical Science, page 378, that some remarks made by me, from this chair, have not been accurately reported.

On that and other occasions I have declared my inability to understand the doctrine of Blood-poisoning, or Septicæmia—terms "familiar in our mouths as household words," implying, as it appears to me, that the blood takes up a poison, putrid or specific as the case may be, both by direct inoculation and by some other means, which it carries and distributes through the system. This is a doctrine I cannot understand; and as these terms are frequently applied to puerperal disease, I feel that in addressing some remarks to you upon this very important and difficult subject—which, indeed, may be called the subject of the day—I am addressing myself to an appropriate tribunal, fully competent to deal with the subject, and one which will, I am sure, deal with my deficiencies in a friendly spirit.

I shall first proceed to the consideration of disease produced by inoculation, requiring inflammation for its development, and then refer to essential disease in the development of which inflammation plays no necessary part—in conclusion stating the doctrine which I myself

hold upon the subject.

I. For an example of the first of these we may take the case of a dissecting wound where the matter inoculated is putrid, and the inflammation which follows is diffusive, irregular, and undefined.

Other examples may be seen in the inflammation resulting from the specific virus of syphilis and of vaccinia which is tolerably regular in its course, and definite.

I would ask, do these cases exhibit any sensible evidence, through-

out their whole course, of the blood being putrid?

Though not exactly coming under this head, I may here adduce the case of gangrene where the affected part ferments, evolves gas, and becomes sensibly putrid, while still retained, not only in immediate contact with, but actually continuous with the surrounding living tissues. Even here the blood in circulation is not sensibly putrid. On the contrary, the gangrenous part is sloughed away and has evidently no real connexion with the living tissues though in contact with them; were it otherwise, and if the putrid matter were spread through the blood, it would reach the heart and kill at once. In fact, the gangrenous part ceases to be a living portion of the body.

II. Of the second class of diseases to which I would refernamely, those essential diseases, in the development of which inflammation plays no necessary part—I take for examples fever, cholera, and purpura. In these the blood may be considered as especially implicated, and yet, in the course of my observation of them, I have not been able to discover fermentation or putrefaction in the blood analogous to the fermentation and putrefaction which we observe in

dead organic fluids.

And I would here remark, in reference to deductions drawn from experiments upon these dead fluids, that they cannot be fairly extended to anything taking place in the blood, as it is in the living body, the fact being that there is no true analogy between the cases, as the experiments are conducted under totally different conditions. Even where we follow the diseases I have referred to under this head to the dissecting-room, the blood presents no sensible difference from that which it does in death from other diseases, whereas if those processes were going on they must become sensible.

In proof of this I would call your particular attention to that awful disease, named by Stokes "Acute Purpuric Fever," and aptly compared by Dr. Lyons to the "Black Death" of the middle ages. In this disease the truth that "a little leaven leaveneth the whole lump,"

is painfully exhibited.

According to my observation of it, putrefaction of all the tissues sets in with such appalling rapidity that it may be said that the person attacked by it has scarce time to die before his whole body has become sensibly putrid. Yet I believe that, had we the means of ascertaining the fact, the blood would be found to be the last thing to putrefy.

I have adduced this case, in contrast to the illustration from gangrene, in further proof that, where the putrefaction actually does take

place in the living body, it kills at once.

It is not my intention to discuss the theory of spores in the air, or of bacteria in the blood, but it is right I should state that, in all the

cases of disease mentioned in this paper, the patients were exposed to the atmosphere in different places, and one case of acute purpuric fever occurred in a well-ventilated hospital ward where nine other patients were at the same time suffering from common continued fever.

III. I come now to state, in conclusion, the doctrine that I hold

myself upon the subject.

Let us take the case of a man who drops dead as he is walking in the street. What do we find here? In a single minute the following, amongst other remarkable changes, have taken place:—In the first place, just as we can, by cleanliness, check putridity in foul discharges from wounds, so we can produce or retard fermentation and putrefaction in the dead body, which I hold to be impossible in the living man. In the second place, we cannot produce inflammation or fever in the dead body, while both might have been induced in the living man.

What, I ask, produces these differences? Is it not evident that if the causes be merely physico-chemical, the same changes ought to be possible of producing both in the living and in the dead body? Whereas if we assume that the living body is under the influence of a higher force, by whatever name it may be called, the cessation of that force in death sufficiently explains the phenomena that

follow.

In accordance with this, instead of attributing the power of producing disease to the blood-receiving poison, and carrying and distributing it through the body by a sort of hydraulic action, I attribute it (the communication of disease) to the affection of the whole vital susceptibility. When, for example, I vaccinate a child, the effect is produced not by the blood distributing the vaccine poison mechanically through the system, but by the combined and associated action of every sentient atom of the part, solid and fluid, recognising and receiving the impression from without and conveying that impression to the whole system, by which is conferred immunity from the infection afterwards.

Similiarly when a man takes a fever, whether through the skin or through the mucous membrane, he has not to wait for fever until the blood has carried it to each part of his frame, but the whole man by a simultaneous shock has received it through the affection of vital

susceptibility.

The conclusion at which I arrive is that the terms blood-poisoning and septicæmia imply that which is not the fact, and lead to erroneous practice on the false supposition that there is a condition of putridity in blood in circulation. Finally, I would maintain that where disease or injury is inflicted on the body, its organic life is assailed, its vital susceptibility recognises, resents, and resists the assailant; and, gentlemen, it is the mission of the physician and of the surgeon to come to the rescue and fight on the side of assailed vitality.

Meeting, Saturday, December 8th, 1877. Mr. Darby, President, in the Chair.

Specimen of a Fibrous Polypus.

Dr. M'CLINTOCK.—This is a small but admirable specimen of fibrous polypus, which Dr. Torney and I removed from a patient of his on the 15th of this month. The only interest attaching to it is that the lady from whom this was removed, who is about forty-five years of age, and has given birth to three or four children, was the subject of a similar complaint about four years ago, when Dr. Torney and I removed from her a polypus of the same nature as this, and of the same size. On each occasion the polypus had a well-defined pedicle, and had passed almost completely behind the os uteri, so that there was no difficulty in the operation. It was the first case in my experience in which I had, in the same patient, to remove a second polypus that had passed into the vagina.

The President.—I removed two polypi from the anterior lip of the uterus. When removing one I discovered the other. The one I first removed was the largest, and after I had removed it the uterus receded, and I found a difficulty in catching hold of the small one, which was not as large as a pea. The other was not quite as large as the one now exhibited by Dr. M'Clintock. I had to wait a few weeks until the second grew a little larger, and then I removed it. Should, however, such a case be presented to me on any future occasion, I shall remove the smaller tumour first, and subsequently the larger

one, so as to complete the operation at one sitting.

The Influence of the Uterus in Eye Disease.

By H. R. SWANZY, M.B., F.R.C.S.I.; Professor of Ophthalmic and Aural Surgery, Royal College of Surgeons in Ireland; Surgeon to the National Eye and Ear Infirmary; Ophthalmic Surgeon, Dr. Steevens's Hospital.

One of the greatest efforts of modern ophthalmology has been directed towards bringing this branch of medical science into intimate relation with the others. At the present day, indeed, there are few eye diseases which we recognise as purely local affections. While they require special local treatment, most of them demand attention also to some constitutional defect, or some disease situated perhaps in a distant organ. Thus we know that eye diseases may have their starting-point in the heart, kidneys, or spleen. The visual organs may be affected in tuberculosis; they often suffer in diseases of the nervous and vascular systems; and I need hardly say how frequently they become diseased in syphilis and struma. This evening, by the kind permission of the Council of the Society, I propose to occupy your attention for a short time in considering the influence of the uterus in eye disease.

At the very outset I must explain that the subject is by no means a completely developed one. It is a very wide one, and its investigation is surrounded by many difficulties. Not the least of these is the circumstance that very few ophthalmologists are at the same time experienced in gynæcology, and that it is also rare to find a gynæcologist who knows anything of ophthalmology. Still the influence of the uterus in eye disease is every day attracting more attention amongst oculists, and we may hope that before many years have gone by we will be in possession of a number of well-authenticated facts which will teach us how far this causal relation between diseases of the uterus and the eye exists, and will enable us to understand in what way it comes about. At present we possess some facts only, while much of the subject remains hypothetical. If we could enlist the interest of gynæcologists in the matter much more rapid progress would be made, and it is partly with this object that I come before you to-night. In what I am about to say I shall not confine myself to my own experience for material, but I shall draw on the observations of others also, in order to present you with as complete a view of the question in its present stage as is compatible with the time at

our disposal.

The first disease which I shall bring under your notice, as probably having its primary cause in the uterus, is iritis occurring in young girls from about the eleventh to the seventeenth year of age-say within a period varying from two to three years prior to the establishment of menstruation up to two or three years after they commence to menstruate. I am much interested in these cases, because, so far as I am aware, they form a point of connexion between the uterus and the eye which has not before been pointed out. I am aware, however, that others besides myself have observed this connexion, for while lately in Paris I learned in conversation with a distinguished oculist there that his experience had led him to form a similar view on the subject. The whole number of these cases which I have seen is seven. It may seem few, but the smallness of the number is accounted for by the fact that I have not seen a single case of the kind in hospital practice. These patients seem always to enjoy good general health, and so far as I have been able to ascertain they did not suffer from any serious irregularity in the uterine functions, should that organ have come to maturity. The most I have detected has been a somewhat insufficient menstrual flow. I am unable therefore to connect the disease of the eye positively with a disease of the uterus, but I am inclined to regard the uterus in some way as the starting-point of the iritis for these reasons:—(1) Iritis is extremely rare at such an early time of life, unless as dependent on congenital syphilis, or as secondary to corneal diseases; (2) I have never seen a case similar to those I speak of in the male; and therefore (3), when one finds it to occur with a certain frequency at the time of life when the uterus is approaching maturity or has lately reached it, and when one is able to exclude all other causes, the inference is a fair one that the uterus in some way has given rise to the iritis.

The form of iritis is similar in all these cases; there is usually little or no pain, and but little vascular injection of the eye or photophobia. The anterior chamber usually remains clear, and there is no deposit on the posterior surface of the cornea. There is a great tendency to the formation of posterior synechiæ, and the stroma of the iris in bad cases becomes indistinct and discoloured. The vitreous humour is very liable to become cloudy, showing that the cases are not ones of simple iritis, but that the ciliary body and choroid are implicated. Perhaps, indeed, it would be more correct to describe these as cases of irido-choroiditis. In some of the cases I have seen it was the dimness of sight caused by these opacities of the vitreous which first induced the patient or her parents to seek advice. The affection is very slow in its progress, very difficult of cure, and very liable to recur.

One of the most serious cases of this kind which I have observed is at present under my care. I shall not impose the whole history of the case upon the Society, but shall briefly refer to its principal

teatures.

On 5th of July last I was consulted by the parents of a particularly healthy-looking young lady, aged sixteen, on account of her defective vision. In the right eye was the form of irido-choroiditis which I have described, and in the left eve there was optic neuritis. The sight of the right eye was reduced to the power of counting fingers at eight feet; but neither the patient nor her friends were aware of any defect in the functions of the left eye, the one with optic neutritis, although its vision was only a little more than one-third of what it should have been. She had first complained of her sight about two months before I saw her. Five months previously the menses had remained absent on the occasion, and at that time she had a bleeding from the nose. Since then the menstruation had been regular as to time, but the mother seemed to think the flow not quite as abundant as in girls of her age and of such full habit. She was particularly subject to headaches, but it had not been remarked that they were more severe at or about the menstrual period. Since she has been under my care I think I have noticed that the headaches are more severe at that time. After remaining in town for six weeks the patient had so far recovered as to be able to return home. She had not been at home for more than ten days, when, while stretching up to nail a picture on the wall, she found the sight of the left eye suddenly become dim. She was at once brought back to me, and the ophthalmoscope displayed an enormous hæmorrhage situated probably between the retina and choroid. The right eye had also relapsed, the vitreous humour being very much more clouded than when I had last seen her. At present the sight of the eye in which the hæmorrhage occurred is extremely imperfect, owing to a detachment of the retina which has resulted. The sight of the right

eye is tolerably good, and if I can save it for her I shall think myself extremely fortunate in the case. We have in this case three diseases of the eye—irido-choroiditis, optic neuritis, and intra-ocular hæmorrhage. It was to give an example of the first of these that I brought forward the case in this part of my paper; but the two other affections are also recognised as sometimes the consequence of disordered uterine functions, as I shall show further on. Fortunately it is a rare thing to find them all combined to destroy vision as in this instance,

especially in so young a person.

The treatment which I have usually adopted in these cases of iritis has been chiefly local during the acute stage of the inflammation atropine, warm fomentations, &c. After the acute inflammation had subsided I have given tonics, especially iron. In the case I have just alluded to the treatment was very various according as the symptoms demanded. For a long time, although I was fully convinced of the connexion between the eye trouble and an imperfect menstruation, yet treatment could be only partially directed towards the uterus, owing to the necessity for promoting absorption of the intra-ocular hæmorrhage by a horizontal position for several weeks. Such confinement to the house is not, I conceive, well calculated to improve the uterine functions. However, aloetic purgatives were administered with bromide of potassium. Latterly iron has been given in place of the bromide. On the whole, the menstrual flow is now more abundant; but that this has had any great influence in producing restoration of a healthy condition within the eyeballs, I am unable to say. The most that I can believe to have been accomplished by the uterine treatment, if I may so call it, is that no very serious hæmorrhage occurred again, nor any fresh attack of iritis.

Inflammation of the optic nerve and retina may depend on disturbances of menstruation. In the *Irish Hospital Gazette* for 1873 (p. 46) I published a case of neuro-retinitis in a girl, aged nineteen, whose menstruation was sparse and painful, and in whom the eye affection always became aggravated at the monthly periods. I observed another similar case, of which unfortunately I have lost the notes. Mandelstam* has seen many cases of optic neuritis where marked menstrual disturbances had gone before. Von Gräfe† recognised the existence of such a connexion. Mooren‡ has seen cases of neuro-retinitis after suppression of menstruation, and he is of opinion that retroflexions of the uterus and ovarian tumours may give

rise to the same affection.

Retinal apoplexies are sometimes the consequence of cessation or suppression of the menses. Thus Liebreich, in his "Atlas of Ophthalmoscopy," gives a drawing of a retinal hæmorrhage which occurred in a woman forty-five years of age, in whom menstruation ceased, and who had had it very abundantly up to that time.

^{*} Klin, Beobacht. a. d. Augenheilanstalt zu Wiesbaden. 1866. † Archiv f. Ophthal., xii. 2.

Dophthalm. Mittheilungen. 1874.

He mentions that he had several times observed the same ophthalmoscopic appearances under similar circumstances. Samelsohn* describes a case of absolute amaurosis after a sudden suppression of menstruation in a girl, aged twenty-one years. There were no ophthalmoscopic appearances, and the probable diagnosis consisted in a hæmorrhage into the optic nerve behind the globe. The patient was working in a cold stream during her menstrual period. The menses ceased at once, and on the evening of the same day vision began to be affected. In the course of five days the patient became stone blind. The treatment consisted in warm foot-baths, mustard poultices on the upper part of the thighs, emetics, and the application of Heurteloup's artificial leech to the temples. Later aloetic and iron pills were given. In twenty-four hours the sight began to recover, and in the course of eleven days the vision was again almost normal. Seven weeks after the sudden interruption of the menstruation it returned, and simultaneously the pains in the breasts disappeared, with which she had been troubled since the loss of her sight.

Atrophy of the optic nerve has been noted repeatedly by Pagenstecher† as occurring in women who had suffered from severe menstrual disturbances (irrregularity, early cessation), which he regarded

as the cause of the eye disease.

I have now to speak of an affection of sight connected with uterine disorder which until lately has been classed among eye diseases, but which we now know to be nothing more than a symptom of a certain uterine disease. It is a form of asthenopia to which the name of Kopiopia Hysterica has been given. I have for some time been acquainted with this affection, but, like the iritis of which I have spoken, I have never seen it except in private practice. One of the first patients who consulted me was a case of this kind. I was extremely puzzled by it, never having seen anything of the sort before. Since then I have seen a considerable number of such cases, but only quite lately have I read the first description of the affection, along with an explanation of its cause. It has been described at length by Professor Förster, in his article in Gräfe and Sämisch's new Handbook of Ophthalmology, and the pathological conditions of the uterine apparatus which Professor Freund, of Breslau, has invariably found accompanying it are cited by Professor Förster. This article has been published within the current year (1877).

Patients suffering from the affection complain chiefly of inability to read, write, sew, or use their sight for any near work, owing to darting pains through the organs when they attempt to do so. The pains in and about the eyes, however, although increased by any use of them, are also present with greater or less severity at other times, and are intensified by anything which depresses the general tone of the patient, such as want of sleep, fatigue, sorrow, &c. The patients are

^{*} Berl. Klin. Wochenschr. 1875. P. 27. † Klin. Beobacht. 1866.

troubled with photophobia, especially at night, when the lamps or candles are lighted. Indeed, many of them can bear the direct sunlight without inconvenience, when even a shaded lamp in the room in the evening will give them great distress. No organic disease of the eyes is present. Some hypermetropia or insufficiency of the internal recti may be found, and is likely enough for a time to mislead the surgeon. The eyes are never injected; there is no swelling of the lids; no epiphora. Professor Förster has remarked that the patients have good days and bad days, but that there is no regular interval between these variations, and he has also observed that they are never kept awake by the pain of their eyes; and he says that shortly before and during menstruation the symptoms are usually more severe. These are points which I have not noted myself. One generally finds these patients endowed with the greatest volubility, the torrent of words with which they describe their ailment affording in itself a symptom of the disease. Very often they enter into the most curious details concerning their trouble. Thus one young lady assured me that there was only one book which she could read without suffering intense pain, and that was one particular copy of the Bible. She could read it for any length of time without the slightest inconvenience, but not even another copy of the same edition could she look at. I was told that there was nothing particular about this book: it was of the ordinary hand size. One of Förster's patients was compelled always to shut her eyes when passing through a doorway, as the draught brought on the pain, and another got a pain in her stomach whenever she attempted to read. Although in other particulars these patients might be termed "nervous," still they do not usually suffer from any marked hysterical symptoms apart from their eves.

Professor Freund, of Breslau, has found by means of a large number of post-mortem examinations of women who had complained of these eye symptoms that they were uniformly affected with a certain uterine disease, which he claims to be the first to have recognised. It is a chronic inflammatory process, attacking the parametrium, and producing in bad cases atrophy of that tissue, with displacement of the pelvic viscera. It is liable to affect married and unmarried women at all times of life. Its course is a very chronic one, extending often over a period of several years, and treatment has little effect upon it. Painful regions may be sometimes found in the lateral culde-sac of the vagina: in the course of the broad ligament, and stretching towards the pelvic walls. There is often venous congestion of the vagina, with chronic metritis, catarrh, and ulceration. In less severe cases these local signs may be but slightly marked, and the recovery may take place in a comparatively short time. In none of the cases which have come under my care have I noted any of these pelvic signs; but I must acknowledge that I have seen but two or three rather imperfectly marked cases since I became aware of the nature of the affection. The best treatment consists, I think, in doing as little as possible in the way of medicine, but by attention to the general health to promote the cure, and by diverting the patient's attention from themselves to alleviate the symptoms. For the latter purpose there is perhaps nothing so useful as change of scene or foreign travel. Probably a foreign chalybeate spring would combine every-

thing that could be desired in the treatment.

In the foregoing I have referred to five affections of the eye which seem to depend sometimes on uterine derangement—a form of iritis, neuro-retinitis, apoplexies of the retina and optic nerve, atrophy of the optic nerve, and an affection called kopiopia hysterica. It is more than probable that this list might be considerably extended, but we must be careful not to fall into error of regarding every eye disease which happens to be concomitant with a derangement of the uterine functions as dependent upon the latter.

There are just now two girls in the National Eye and Ear Infirmary suffering from different eye diseases, each of them peculiar in its form. Both of these patients are very irregular in their menstruation still I do not feel sure as to a connexion between this and the

eye troubles.

Dr. KIDD.—The Society is greatly indebted to Mr. Swanzy for his paper, which is one of extreme importance. It illustrates the necessity of medical men not altogether confining themselves to special studies, but—while they must be mainly devoted to special subjects—of keeping themselves au courant with other branches of medical science and literature. If for nothing else, it is very important that we should carefully consider this paper. I myself know nothing of ophthalmic surgery, but through the kindness of my friends who do, I have had patients sent to me with the intimation that they had a condition of the eye that depended on uterine disease. I found in most of those cases that as the uterine disease improved, the disease in the eyes improved also. In very many instances I have seen the connexion between uterine disease and the condition of the eyes which has been described by Dr. Swanzy. I have specially noticed cases in which vision has been impaired, and chronic uterine hæmorrhage at the same time going on. This day I saw a lady who has a large fibrous tumour, and who has suffered very much for many years from hæmorrhage. She has nearly lost the sight of her right eye; and Dr. Jacob, whom she consulted with regard to her vision, has informed me that the vitreous humour of her right eye is quite opaque. A gentleman, who is not a professed ophthalmologist, thought she had cataract, but Dr. Jacob says it is not. I have seen many cases in which, while the hæmorrhage was going on, the patients suffered very severely in the eyes. We know the anxiety as to their sight that women have during their puerperal state. are aware, perhaps instinctively-or at all events it is a matter of common knowledge—that during that condition their eyes are very delicate, and very easily injured by use; and they are careful to avoid reading or otherwise using their eyes while that condition

lasts. The eyes are, I believe, often injured by reading too soon after confinement.

Dr. Macan.—When the state of the uterus during pregnancy is sometimes accompanied by loss of sight, it is easy to conceive that lesser affections of the uterus may also lead to less severe disturbance of vision. Dr. Churchill gives cases in which the sight was lost during pregnancy. These are, I think, quite distinct from cases of loss of sight from albuminuria dependent on pregnancy. In all the

cases but one vision was completely restored after delivery.

Dr. MacSwiney.—We should not omit to notice one of the practical results of the paper which has been read-I mean the treatment to be adopted in affections of the eye which spring from some peculiar conditions of the uterus as distinguished from that which is employed when the affection of the sight arises from local disease of the organ itself. The paper has a valuable bearing in this respect. Obviously, as has been indicated by the learned reporter, the treatment must be totally different in such cases as he details from that which would be proper when there is acute affection of the visual organs arising from other causes. While I am not aware that there has been previously, in this country at least, any formal recognition of morbid relation between uterine affections and affections of the eye, I am well aware that hospital physicians have long since recognised that such relations do exist; and I think that every practising physician must have met with cases in which it was clear that affections of the sight complained of by young females, who were, for the most part, what physicians are in the habit of calling hysterical, were plainly referable to some disturbance of the uterus. The treatment adopted in those cases—and I speak both from the experience of others and from my own—indicated quite clearly that such a connexion was recognised; but it has been customary with physicians to refer those cases ultimately to the care of ophthalmic surgeons, who, being specialists, would discriminate more distinctly and in more detail the particular lesions of the eye present in the particular instance.

Dr. Henry Kennedy.—I saw some years since, in Guy's Hospital Reports, a valuable paper, in which cases were related of not merely the eye, but of the other senses also being affected, and the affections being connected with pregnancy, and recovery taking place subsequently. Cases were given of loss of both sight and hearing from that cause. As to what has fallen from Dr. MacSwiney, every physician is perfectly aware of, and must have met with, cases of loss of sight from affections of the uterus. As a general rule in those cases, the pupils of the eyes are much dilated, and the loss of vision is great, and I have known it to be even permanent. The treatment in such cases is always of a tonic character. I do not at all speak of the interior state of the eye; but dilated pupils and derangement of vision

are very common in hysterical cases.

The President.—That is the very point in which Dr. Swanzy's paper is valuable, for it points to uterine disease not merely as creating or initiating functional disease of the eyes; but such organic disease as Dr. Swanzy has spoken of as arising from diseases of the womb is, I confess, new to me.

Dr. SWANZY (in reply).—I have to thank gentlemen for the kindness with which they have spoken of my paper. I only intended it to be suggestive. It does not pretend to definitely settle anything on the subject. I hardly think that the experience of any one man would suffice to find out all that will have to be found out on the subject. A far more extensive field of observation than I have obtained is necessary to arrive at certainty. It is possible, as has been said, that a great many cases of affections of the eyes are traceable to a deteriorated state of general health produced by the affection of the uterus. With regard to the case of chronic uterine hæmorrhage, and accompanying opacity in the vitreous humour of one eye, mentioned by Dr. Kidd, I would be inclined to explain that opacity by supposing that it was due simply to a hæmorrhage into the vitreous humour. I happened lately to have been in communication with a distinguished London oculist in reference to a case of the same kind. There were hæmorrhages into the vitreous humour, but in that particular case no uterine hæmorrhage; nevertheless he told me he had often come across similar conditions of the eye in which the patient did suffer from chronic hæmorrhages. He called the case one of hæmophilia. Dr. Kidd also referred to the fact that the eves of women in the puerperal state are often affected, and other speakers spoke of pregnancy as giving rise to defects of sight. of sight usually depend on one of two things—viz., either (as Dr. Macan has mentioned) albuminuria, with the particular changes in the retina which albuminuria of every kind produces, including fatty degeneration of the retina, with hæmorrhages and optic neuritis; or on paralysis of the power of accommodation of the eye. In cases of fever or severe illness of any other kind which produces a lowering effect, the power of accommodation of the eye breaks down, and accordingly when it has to be exerted to a more than usual degree, the patient is unable to read or to see near objects. That I imagine to be the common explanation of hypermetropia in women pregnant or after childbirth. I agree with the remarks of the President that the point most to be attended to in my paper is that relating to the organic changes that may take place in the eye as the result of uterine disorders.

On the Treatment of Post-partum Hæmorrhage by the Injection of Hot Water into the Uterus.

By LOMBE ATTHILL, M.D., Master of the Rotunda Hospital, Dublin.

Post-partum hæmorrhage is of such frequent occurrence, and so often assumes an alarming character, that any method of checking it

which combines efficiency with ease of application and safety to the patient is certain to be hailed with satisfaction by practitioners. Without doubt the most efficient means at our command for the arrest of flooding after labour is the injection of a styptic, such as the solution of the perchloride of iron, into the uterus. This is a procedure which, after repeated trials, I have no hesitation in recommending, and I shall continue to have recourse to it in suitable cases. Apart, however, from the alleged danger of injecting a powerful styptic into the uterus—a danger which, though well-nigh groundless, suffices to deter many from having recourse to it—there is objection to the practice, that the perchloride may not always be at hand when the emergency arises, and that valuable time may be lost ere it can be obtained.

The introduction of the hand into the uterus—in some cases an efficient method of checking post-partum hæmorrhage—is certainly not free from danger, and is moreover by no means reliable in its results. While the routine treatment by cold, whether applied to the surface or injected into the uterus, requires for its success that the patient be possessed of sufficient vital energy to insure reaction. In other words, the application of cold in post-partum hæmorrhage is a most efficient remedy in cases where a sudden loss of blood occurs in an otherwise healthy woman, who has not been exhausted by an unduly prolonged labour; but is altogether unreliable, and in many cases positively injurious, where the patient has been debilitated by previous disease, worn out by long protracted suffering, or exhausted by frequent, though it may be small, losses of blood.

As far as my personal experience goes, those apparently alarming losses of blood which sometimes occur immediately after the birth of the child, or expulsion of the placenta, are not likely to terminate. fatally: they can in general be at once arrested by steady pressure over the fundus of the uterus, and by the use of cold, but the hæmorrhage to be dreaded is that in which the blood trickles away in a little never-ceasing stream, the uterus relaxing and contracting alternately. This form of hæmorrhage, of which I have seen several fatal cases, is most liable to occur in delibitated women, and, in such cases, cold is in general absolutely useless—nay, more, often injurious. shall never forget a case to which I was called several years ago. The patient had been confined prematurely some hours before; subsequently, hæmorrhage set in, not profusely, but it could not be checked by "the usual means," and her attendant becoming alarmed, I was sent for. This patient had been for a long time assiduously treated by the application of cold. Napkins wrung out of cold water had been continuously applied to the vulva, and to the abdomen, cold water injected, &c., but all in vain, a little stream of blood never for a moment ceased to trickle from the vagina, and yet the uterus was firm. When I saw the patient, the whole surface of the body was cold, and the pulse could hardly be felt. My first step was to remove the wet sheet and dripping napkins, and to apply warm jars

to the extremities, and I had the satisfaction of speedily seeing the hæmorrhage cease, without any further treatment than friction to the fundus of the uterus. From this case I learned that the prolonged use of cold in cases of post-partum hæmorrhage may be absolutely injurious, and my practice has been to have recourse to other means if, after a fair trial, cold produce no effect, and not to defer doing so till

the vital powers were too depressed.

Another practice I have had recourse to with good results, in certain forms of uterine hæmorrhage, not connected with pregnancy, has been the use of Chapman's spinal hot water bags; and, reasoning from the benefit derived from them, in these cases, I thought of trying them in post-partum hæmorrhage, but from one cause or another I never carried out my intention. My views being thus somewhat unsettled as to the possible value of heat in post-partum hæmorrhage, I hailed with satisfaction the suggestion to inject hot water into the uterus in such cases, and decided to put its value to the test of personal experience.

Having decided to try the method, the opportunity was not long wanting. On the morning of the 20th of November a woman, aged thirty-three, was delivered in the Rotunda Hospital of her fourteenth child. Labour had been easy and natural, and pressure, as is the usual practice in this hospital, was maintained over the fundus till the placenta was expelled, which occurred in about fifteen minutes; profuse hæmorrhage set in immediately after, and Dr. Smyly, Assistant-Physician to the Hospital, was sent for; he applied pressure to the fundus, cold to the vulva, and injected cold water into the uterus with good effect, but the patient becoming alarmingly weak, he sent for me.

On my arrival in the ward she was almost pulseless, the face pale, and the surface of the body cold. There was little hæmorrhage going on, but the uterus relaxed in spite of pressure with the hand on the fundus, and a little stream of blood continuously trickled from the She was in a state of great danger, and in a condition which would have warranted the use of the perchloride of iron, but instead of having recourse to it, I resolved to inject hot water; this was procured in a moment, and passing the tube of the syringe right up to the fundus of the uterus, I injected water freely at the temperature of 110°, keeping my hand at the same time over the fundus. I was pleased to find that the uterus contracted firmly under it, exactly as it would close had I employed the perchloride of iron. In a very short space of time, probably before I had injected more than a pint of the hot water, the fluid ran nearly clean from the vagina, the pulse improved markedly, and I ceased to inject any more. After a short time the binder was applied; no further bleeding occurred, and the patient made a rapid and good recovery.

On the 30th of November another opportunity offered. A young woman, rather pallid and delicate-looking, was delivered, at 8.45 A.M., of her third child. No hæmorrhage occurred at the time, and she appeared to be all right; but at 10.30 o'clock she complained of feeling weak, and was found to be losing blood. Dr. Smyly saw her promptly, and, on removing the binder, found the uterus to be relaxed and flabby, and to reach to above the umbilicus. On using pressure an enormous quantity of clots were expelled, and blood flowed freely from the vagina. Cold was applied, and the uterus contracted firmly. I now saw her; she was very pale, and the pulse could hardly be felt; the uterus was firmly contracted, but remained very large. As the hæmorrhage seemed to be checked, I did not at first think that more need be done, but while my hand was still on the fundus I perceived it to relax, and blood flowed again. I therefore decided on injecting hot water before matters became worse, for it was evident

that she could bear very little further loss.

On introducing my fingers up to the os, with the view of guiding the tube of the syringe into it, I ascertained that the great size of the uterus was partly due to the presence of a fibrous tumour in its anterior wall. This fact did not deter me from proceeding with the injection, but rather decided me to do so. As in the previous case, the water no sooner reached the fundus than the uterus contracted firmly, and the oozing of blood ceased; but the most remarkable feature was the immediate effect on the pulse—it at once improved markedly, becoming fuller and stronger. The uterus did not relax again, and no further loss occurred. This patient recovered strength very slowly, but was able to get up in a week. On questioning her subsequently as to her feelings at the time, she stated that at the moment of the injection she experienced the greatest comfort, and obtained immediate relief from intense pain from which she had up to that moment suffered.

I am unable to say to whom we are indebted for the introduction of the use of hot water injections for the control of uterine hæmorrhage. I was induced to try it in consequence of a letter written by Dr. Whitwell, of San Francisco, to Dr. Foley, of Boston, who is at present studying in this hospital. Dr. Whitwell's statement is to the following effect:-When house surgeon at the New York State Women's Hospital, he saw the uterus contract firmly and instantly upon being washed out with hot water after an operation by Dr. Marion Sims, upon a sarcomatous growth of the fundus uteri. was in 1874. The result led him to try the same treatment in postpartum hæmorrhage, where he met with perfect success. He afterwards succeeded in having the treatment tried in the Lying-in Hospital at Prague, where he studied for some time. At first he was ridiculed, but as the method was successful in every respect it was adopted as a regular routine treatment. The water should be at a temperature of 110°. I had previously seen the treatment alluded to in some of the periodicals, but this letter decided me to test it personally.

The first notice which I have been able to trace relative to the use of hot water injections in post-partum hæmorrhage occurs in the

American Fournal of Obstetrics for April, 1876, in which, in an abstract of a paper by Dr. Carl von Rokitansky, jun., "On the Treatment Employed in Vienna for Uterine Hæmorrhage," the following brief passage occurs:—"Dr. Windelband has recently recommended injections of hot water in menorrhagia and post-partum hæmorrhage," and nowhere else have I been able to meet with more explicit directions on the subject.

My experience is as yet but scanty, still I have twice used hot water injections in cases of sufficient gravity to call for the most prompt and active treatment, and with most satisfactory results. Both were examples of that class of post-partum hæmorrhage which are liable to end fatally, not indeed immediately, but in the course of a little time, if the thin stream of blood be not stayed. Since I became Master of the Rotunda Hospital two such cases ended fatally.

The cases I now record undoubtedly establish this much—that the injection of hot water powerfully stimulates the uterus to contract, and thus rapidly checks the hæmorrhage; but that it does more is, I think, as clearly established; it evidently acts as a general stimulant. The effect on the pulse was most marked; indeed the pulse was affected more rapidly than by the hypodermic injection of ether, and it did not flag again. The faces of the patients, too, lost the deadly hue they previously had worn; and last, not least, they expressed themselves as having experienced the greatest relief, and obtained great comfort.

I anticipate very good results from the introduction of this simple treatment into obstetric practice. There are many men who fear to use the perchloride of iron as an intra-uterine application, but who, when prejudice has been overcome, will not shrink from the use of hot water; and, I believe, not a few lives may thus be saved. To recapitulate, in hot water we have at once a safe and efficient remedy, one comforting and agreeable to the patient, and an agent which is always at hand. Whether it is as reliable as the perchloride of iron

remains yet to be proved.

It should be remembered that the advantage to be derived from the intra-uterine injection of hot water is not confined to cases of post-partum hæmorrhage. It was first used to check hæmorrhage occurring in cases of chronic disease of the uterus, and after operations. Its range of usefulness is therefore great. At the present time I am engaged in observing its action in chronic cases, and hope

in time to be able to bring forward the results.

In conclusion, I would urge practitioners to try for themselves the use of hot water injections. I can assure them that they need not fear bad results; nor, though 110° is the temperature named, is accuracy in this respect needed. Water in which the hand can be kept without discomfort may, with safety, be employed; but, it must be remembered, that if the temperature be allowed to fall much under 110°, disappointment will certainly follow; equally will the injection be well-nigh useless if the tube of the syringe be not passed

right up to the fundus of the uterus, or at least fairly to within its cavity.

Dr. M'CLINTOCK.—Was the stream of hot water conducted directly

into the uterine cavity?

Dr. ATTHILL.—In both cases I passed the fingers of my left hand up to the os uteri, and guided the tube into it as if I were using perchloride of iron; and in both cases the tube must have nearly touched the fundus of the uterus before I commenced to inject the hot water.

The President.—I quite agree with Dr. Atthill that the injection of cold water is not always reliable, and sometimes does mischief. I have had no experience myself of the use of hot water in such cases.

Dr. Kidd.—The injection of hot water into the uterus to check hæmorrhage comes before us in this country as something new—at least I presume from the silence of other members that they are in the same position as myself on the subject. Theoretically I can see that in many cases it is likely to be useful. I can quite understand that in the case of a woman in an exhausted state, with cold surface and nearly pulseless, hot applications would be more likely than cold to cause the uterus to contract; that water at 110° thrown into the uterus would prove a powerful stimulus, and act beneficially, as it appears to have done here. The suggestion has special importance for the reason mentioned by Dr. Atthill, that one can always have hot water at once. In many cases at the Coombe Hospital, when the patient is cold and exhausted, it has been the practice to employ hot and cold applications alternately. That practice I have adopted myself. We apply hot and cold napkins to the sacrum alternately, the object being to make a greater impression and restore sensibility. I am sure we shall all be very glad on many occasions to try the suggestion.

Dr. M'CLINTOCK.—My experience only goes as far as Dr. Kidd's. I am sure we are all ready to admit that though cold is a most powerful means of checking hæmorrhage, yet like every other remedy it has its limits of utility, and that when used without discrimination it may do great harm. Baudelocque, a most acute and accurate observer, in speaking of the treatment for post-partum hæmorrhage, mentions first the external application of warmth, and then goes on to say that cold in the form of either aqueous or spirituous fluid may be applied either to the uterus or the sacrum. I have ventured occasionally to follow Baudelocque's suggestion, and to apply warmth to the sacrum and over the pubis. I never ventured further. I have seen in some American journal a recommendation in favour of the injection of warm water for post-partum hæmorrhage, but I felt timid about adopting it. I am encouraged by the experience and recommendation of Dr. Atthill to try it. I would not, however, have recourse to warm water in the first instance, but would rather use cold for a little while, and then the warmth would have an additional

power of giving a shock to the uterus after the stimulating power of

the cold had been exhausted.

Dr. Atthill.—I have very little to say in reply. The subject is new to myself. It is about a fortnight since I first tried this treatment. In cases of sudden bleeding, where the vital powers are vigorous, cold water is a most efficient remedy, and in such a case I should not think of using hot water. I would say that hot water would be suitable in cases which would demand the injection of the perchloride. In the cases which I have mentioned I would certainly have used perchloride of iron had I not determined to try the effect of hot water; but if hot water proves after further trials to be an efficient remedy, I should prefer it for many reasons to the perchloride—amongst others, on account of the comfort it gives to the patient, and the extreme facility of its use. Cold water is admirable where you are able to give a shock; but you cannot give a shock where the patient is already depressed by cold, or exhausted by a long-continued drawing away of blood. Hot water would be peculiarly suitable in that form of secondary hæmorrhage which comes on an hour or two after delivery, in which the uterus is sometimes full of clots and the patient exhausted, and consequently unable to bear cold water. In such cases it will, I am satisfied, prove extremely useful. On the other hand, the indiscriminate use of hot water would be very injudicious; but the injection of hot water into the vagina alone would, I believe, be useless.

Obstetrie Summary.

Cephalotribe or Cranioclast.

At the meeting of the German Gynæcological Society at Munich, a discussion took place on the relative merits of the cephalotribe and cranioclast. It was introduced with a paper by Credé of Leipzig, in which he controverted the view of Max Wiener, who, in a paper of which a summary appeared in the OBSTETRICAL JOURNAL, vol. v. p. 625, maintained that the cephalotribe, on account of its slight cranial curve, readily slipped off; that it increased the diameter of the head in the diameter opposite to that seized, and so rendered extraction difficult; and that severe complications after its use were more frequent than after that of the cranioclast. His own experience had been precisely the opposite. He did not deny the value of the cranioclast, but, in difficult cases, he had often found it fail, and had afterwards overcome the difficulty with the greatest ease by means of the cephalotribe. He had not met with a single one of the difficulties and dangers in the use of the cephalotribe described by Wiener and Fritsch, and regarded the employment of version, followed by perforation of the after-coming head, as recommended by Fritsch, as being a much more dangerous operation. The author made use of

the cephalotribe of Busch, which is long and slender, but at the same time strong enough to crush the firmest feetal head without yielding, and has a slight cranial, but a strong pelvic curve. The instruments of Scanzoni, Braun, and Kiwisch he considered neither strong enough nor long enough to seize effectively a head situated very high. the use of Braun's cranioclast he had found that the base of the skull was not sufficiently diminished, and so caused great resistance, while the bones seized were apt to tear away, even in repeated reapplica-tions. In the easier cases, however, it answered sufficiently well, especially if the blades could be fixed over the frontal bone. The author took great care to apply the blades of the cephalotribe exactly over the centre of the head, and then, with occasional pauses, screwed them completely together. He never found it necessary to reapply the instrument. He used it to some extent as a tractor, but rather in the sense of guiding than pulling, especially while the head was still passing through the brim. He did not find that the opposite diameter of the head to that seized was elongated. If this did occur, the long diameter might be brought into the longest diameter of the pelvis by the rotation produced by the natural expulsive force, or gently aided by the operator. The whole operation generally lasted only ten, or at most fifteen minutes. The complications which occasionally followed he attributed, not to the cephalotripsy, but to the labour having been allowed to be too long protracted, or to previous injudicious attempts to extract by means of forceps. The main object of the cephalotribe should be regarded as the diminution, rather than the extraction, of the head, and no powerful traction should be applied to it. In the rare and very difficult cases in which gentle traction did not succeed, the cranioclast, which was essentially an instrument of extraction, should be applied after crushing with the cephalotribe.

In the discussion which followed, Fritsch said that the cephalotribe often would not reach high enough, and the cranioclast was then especially to be recommended. This instrument allowed the rotation of the head better than the cephalotribe. He had not himself had experience of the cephalotribe slipping off many times in succession, but he knew that it did happen. He attached great importance to the clearing out of the brain substance after perforation by injection of water. Spiegelberg agreed in the main with Wiener, but thought that slipping did not often occur with the cephalotribe of Busch. He thought the cephalotribe adapted for slight pelvic contractions but not for severe ones, and especially unfitted for a uniformly contracted The great advantage of the cranioclast was that not the instrument, but the pelvis, compressed the head, and adapted it to its own shape. The bones might certainly tear away, but no ill result followed if they were protected by the hand. Out of fifty craniotomies he had used the cranioclast thirty-three times, and had found it much the more efficient instrument. Olshausen had always found the cephalotribe act most effectively, and had scarcely any experience of the cranioclast. He preferred, however, to the cephalotribe of Busch

that of Martin, which had a stronger cranial curve. He used the instrument differently from Credé. He did not screw it up completely at once, but, after a few turns of the screw, proceeded to make traction, then tightened the screw, and so on till extraction was complete. Müller of Bern had used the cranioclast with much satisfaction in many cases of craniotomy, but in a few had been obliged to recur to the cephalotribe. Winckel had for two years used only the cranioclast, and had found that the base of the skull was sufficiently diminished in simple extraction by its means. Gusserow had had such bad results with the cephalotribe that he had abandoned it entirely, but did not find the cranioclast sufficient in all cases. For eleven years he had relied upon the crotchet, but to students he should recommend the cranioclast. Hégar thought that the cephalotribe failed in cases in which the head was displaced much forward, or to one side. He had never found the cranioclast to fail. A. Martin had never had cause to complain of the cephalotribe, but in difficult cases preferred version if possible. He had had good results from applying the cephalotribe to the after-coming head. Schröder had almost entirely abandoned the cephalotribe, and found the cranioclast sufficient, even in difficult cases. Its great advantage was that it allowed the head to adapt itself to the pelvic walls. Hecker thought that the cranioclast was less liable to do injury, but that there were some difficult cases in which the cephalotribe was indispensable.— Archiv für Gynækologie, B. xii. H. 2.

Gynacic Summary.

A Case of Hydatid Tumour of the Pelvis, simulating Retro-Uterine Hæmatocele.

Dr. F. Villard relates a case of retro-uterine hydatid tumour, which ended fatally. The patient was thirty-two years old, and had had three children, the last three years ago. Menstruation had always been normal. On one occasion the menses did not appear till a fortnight after time, and were more scanty than usual. On the third day of menstruation, she was attacked with violent hypogastric pain and vomiting, and was obliged to take to her bed. The symptoms continued and increased during the next five weeks, at the end of which Dr. Villard first saw the patient. She was then much exhausted, pulse 120, face expressive of suffering, dorsal decubitus. There was frequent bilious vomiting, and a constant, though not considerable, discharge of dark blood continued. For two or three days there had been a general icteric tint of skin.

On examining the abdomen, a deep swelling was felt toward the right side, reaching nearly as high as the liver, and passing over the median line toward the left. Another swelling, the fundus uteri, was felt above the pubes. *Per vaginam*, a rounded somewhat elastic

swelling was felt, occupying the whole posterior cul-de-sac, and continuous with the abdominal tumour. The cervix was much displaced forwards and upwards, and the os was somewhat patulous, admitting the tip of the finger. The diagnosis made was that of retro-uterine hæmatocele.

On January 8th some improvement had taken place, but the hæmorrhage continued, although not in great amount. On the 12th prostration had increased, the pulse was thready, and the icteric tint had increased. The next morning it was reported that the patient had been delivered of serpent's eggs, and it was found that she had passed about two litres of blood mingled with innumerable hydatid vesicles. On vaginal examination, an aperture was found through the posterior cul-de-sac into the pelvic cavity, and the tumour had collapsed. The patient died a few hours after, but no autopsy was

permitted.

The author collects for comparison twelve recorded cases of hydatid tumour of the pelvis. In two of these the seat of disease was the ovary, which had become fixed in the pelvis behind the uterus, in three the recto-vaginal septum, in the remaining seven the sub-peritoneal cellular tissue. The very grave nature of the disease in such a situation was shown by the fact that eight of the twelve cases ended fatally, seven of them without any operative interference. In one recovery took place without interference, in three after incision of the cyst. In no single case was the hydatid thrill observed, probably on account of the deep situation of the tumour, but it is also probable that frequently, as in the author's own case, it had not been sought for. In conclusion, the history of these cases shows that the symptoms and physical signs were simply those which might be produced by any tumour in the same situation, and that the only possible means of certain diagnosis is the evacuation, natural or artificial, of the contained fluid. The author recommends free incisions of the cyst, followed by antiseptic injections, remarking that, in his own case, a simple puncture would not have evacuated the numerous secondary cysts.—Annales de Gynécologie, February, 1878.

Retroflexion of the Uterus in Unmarried and Nulliparous Women.

In an article on the causation and trea tment of retroflexion of the uterus in virgins and nulliparous wives, Dr. Grenser declares his experience that retroflexion is of much commoner occurrence in virgins than most authors have considered it to be. Among the commonest causes he has found to be the presence of a fibroid tumour in the posterior wall, or of adhesions, the result of a former perimetritis, by which the fundus is tethered in a backward direction. Among important predisposing causes are also to be reckoned anæmia, want of muscular tone, catarrh of the genital organs, and masturbation; and as an immediate cause the effect of falls or over-

exertion, and especially that of straining, which occurs in chronic constipation. Lastly, a truly congenital retroflexion is an occasional though a very rare occurrence. The late Professor Martin has mentioned such cases, depending on imperfect development of the posterior uterine wall, the whole uterus being small and limp. The author has himself examined at Berlin a specimen taken from a newborn child, which was first described by Dr. C. Ruge in the Berliner Klinische Wochenschrift, 1875, No. 1. In this instance no distension of the intestines was found to account for the displacement, nor were there any adhesions or sign of perimetritis. The posterior vaginal cul-de-sac was well developed. The uterine wall on the convex side of the curve was atrophied, while that on the concave side appeared to be thickened.

The author treats simple retroversions by a ring pessary, but in retroflexion of the nulliparous uterus he considers that the vagina is generally not capacious enough to admit a lever pessary of sufficient size to press the fundus upward in adequate degree. He therefore makes use of an intra-uterine stem, fitted to a vaginal support. He finds that, in many instances, a virtual stenosis of the cervix is brought about from congestion and swelling, even though the os uteri is not primarily very small. In such cases he divides the cervix bilaterally, and afterwards introduces temporarily an intra-uterine stem, to prevent any cicatricial contraction. He records one such instance in which, after three years' sterile marriage, the stem was worn for three and a half months, and the patient became pregnant after the menstrual period which followed its removal.—Archiv für Gynäkologie, B. xi. H. 1.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"Fibromes Interstitiels de l'Utérus. De leur Guérison au moyen de l'Hystérotomie Ignée par les Voies Naturelles." Par le Dr. Abeille. Paris: Delahaye. 1878.

"The Pathology and Treatment of Membranous Dysmenorrhœa."

By John Williams, M.D.

"Anatomical Outlines." By Arthur Hensman. Part I.—The Upper Limb. Longmans & Co. 1878.

Communications received from Dr. Edis, Dr. Braithwaite, Dr. Swayne, Dr. Halliday Croom, Dr. Angus Macdonald, Mr. Cullingworth, Dr. Carmichael, Dr. Hayes, Dr. G. Hamilton.

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Original Communications.

ON THE PROPER MANAGEMENT OF TEDIOUS LABOURS, AND PARTICULARLY ON THE USE OF THE FORCEPS IN THESE.

By Dr. G. Hamilton, Falkirk.

On this subject, by the courtesy of the authors, I have lately received two interesting and elaborate papers, the one by Dr. Dunster, Professor of Obstetrics in the University of Michigan, U.S., read before the Michigan State Medical Society, and reprinted from their transactions for 1877; the other by Dr. Galabin, in the OBSTETRICAL JOURNAL for Great Britain and Ireland, for December last. In my comparatively isolated position in the country, and with only a few medical journals and other works for references, I have to confess that, until I saw these, I had but little knowledge of what has lately been appearing in the literature of this branch of the profession; and I can have therefore no desire in what I am about to say to enter on the discussion of the general subject, which has been so fully treated of by the two gentlemen mentioned. Indeed, had Dr. Dunster's paper been printed in this country, or been generally obtainable here, I should have abstained from again entering the field on this question, as he has so ably supported a line of practice I have long contended for. It would be a great benefit to the profession here, I think, were this paper reprinted in

the form I have received it,* the more especially as I am free to confess that Dr. Galabin in his paper has arrived at conclusions with which I cannot agree, and which, if acted on by the profession generally, would, I believe, throw us back in our feeling for the forceps very nearly to where we were a quarter of a century ago. His conclusion, indeed, that "it has not been shown that the majority, or any considerable proportion of the still-births which now occur in Great Britain would be preventable by a more timely resort to forceps," seems to me very like what appeared in the British and Foreign Medico-Chirurgical Review for October, 1852, in a review of Dr. Murphy's Principles and Practice of Midwifery—viz., 1st. "That in forceps deliveries occurring in 78,892 midwifery cases in the hands of British, German, and French practitioners, nearly one in every four of the children were still-born; 2nd. That in protracted labours, so far as the children are concerned, the proportion still-born is very much the same, whether the forceps be employed or not; the difference, if any, being in favour of leaving these cases to nature."

It was this review that originally, as Dr. Dunster says, "almost aroused my ire," and led to the publication of the series of papers which appeared in the same journal for 1853 and 1871-2, and in different numbers of the Edinburgh Medical Fournal, and which have been so prominently referred to by Drs. Dunster and Galabin.

The conclusion come to by Dr. Dunster, after a very full consideration of the subject, is very different from that of Dr. Galabin, for he says, "my belief is that there is too much hesitancy on the part of many members of the profession to avail themselves of the aid of that truly conservative instrument, the forceps. I hold that, as the instrument is more frequently used for the purpose indicated, the loss of life,

^{*} After I received Dr. Galabin's paper I wrote to the Editor of the OBSTE-TRICAL JOURNAL stating this, and saying that, if reprinted in that journal, I would add some notes, giving the latest results of my experience. To this note I had an answer from Dr. Galabin, saying that he was both Editor and Contributor, and declining to reprint Dr. Dunster's paper, on the ground that the OBSTETRICAL JOURNAL circulated largely in the United States, but kindly inviting me to contribute my present article to his journal.

both fœtal and maternal, will correspondingly diminish, while the amount of the suffering thereby prevented is simply incalculable;" and again, "in conclusion, then, I again recommend a more frequent, and, as I believe, a more rational use of the forceps for shortening the second stage of labour, feeling confident that the more we follow the practice the more we shall see the advantages arising from it, in saving both maternal and fœtal life, and in preventing an incalculable amount of suffering, with the disasters consequent thereon; and to accomplish this desirable end, I urge upon all a more careful study of the instrument, an acquaintance with its powers for good in skilled hands, and its possibilities for evil in ignorant hands; and to do everything within their reach to reduce these possibilities to a minimum, by demanding more thorough instruction and discipline for the beginner in practice."

Dr. Dunster shows a true appreciation of his subject, and in his first sentence gets, I think, to the kernel of the question when he says, "The paper which I submit for the consideration of the Society may appropriately be styled a plea for the more frequent use of the forceps in shortening the second stage of labour, for it is this special use of the instrument that will alone be considered;" and he goes on to show how even such "grand old worthies as William Hunter, Osborne, Denman, and their successors in the early part of this century," laid down rules for the application of the forceps which left little hope for a large portion of the children, at least, escaping with life. It was in this way that I attempted in my first paper in 1853 to explain the discrepancy between the returns I have quoted and those in my own practice, for, I said, apply the forceps as you may you cannot save a child already dead. One in four was the forceps and also the natural feetal mortality, and the obvious corollary from my view of the subject was, if the child is to be saved the forceps must be applied earlier, which, again, led me ultimately to the generalisation, that the second stage of labour should not be allowed to last usually much more and occasionally much less than two hours. This I hold now to be the vital part in the proper management of labour, and

it influences radically the mortality both in cases finished naturally and in forceps cases. Indeed, I do not care howoften or seldom the forceps is applied, but I maintain that by attention to this rule a small percentage of feetal deaths will be obtained, and that in proportion to a neglect of it will be the increase of this mortality. Of course, as those will know who have read my previous papers, I am now speaking very generally, but it is quite obvious that such a rule as this entirely vitiates statistics as to the mere use of the forceps on the life of the child. There are other rules of vast importance in the proper conduct of labours, in order to secure a low feetal mortality; but this rule, as I said to Dr. Galabin in answering his request to be furnished with particulars of my own statistics, is of such consequence that I do not see how, without a knowledge of the extent to which it has been attended to, we can place the least reliance on them.

There are, as I have said, other circumstances and rules of vast importance to secure a low mortality, or no mortality at all, in a given series, and in my different papers referred to, especially in the two in the *British and Foreign Medico-Chirurgical Review* for 1871-2 (to which I must beg to refer those interested in the subject), I have endeavoured in some detail to show what these are. At present I shall merely recapitulate some of them, and I may advert to a few more fully afterwards, in order to explain what may seem exceptional in my own practice.

First, then, there is the kind of population among which we practise. Obviously there must be a great difference between the stunted and often rickety lower-class population of large towns and the sturdy healthy residents in rural or semi-rural districts. The population in my own district, composed mostly of rural, mining, iron-founding, and better-class patients, seems to me perhaps as favourable a child-bearing population as can be found anywhere. In proof of this I may mention that since I settled here in 1833 I have not had *under my own care* as accoucheur a single case where I think a living child might not have been born at or near

the full time. Besides rickets, race and fibre may have a good deal to do with parturient statistics.

Secondly. The experience, capability, and knowledge of the medical attendant must evidently have a great deal to do with the resulting mortality. In the earlier years of my own practice, in the hands of my assistants, and of midwives, the fœtal mortality, I have stated, has been considerable. When, however, the series of 731 successive children born alive, which I have given,* began, I had been upwards of fourteen years in practice, and had used Ziegler's forceps for a long time. I had, therefore, great advantages over a beginner, who probably has neither at first much confidence in himself in applying instruments, nor, what is often of as much importance, has obtained the entire confidence of his patients, especially in districts where instrumental aid has been rarely given. It has, on this account, appeared to me that it conveys an unfair idea of the value of the forceps as a conservative instrument to include the first few years of a practice in statistics which are to furnish reliable information. Much, undoubtedly, must depend on the training, and especially, I think, on the system of using the instrument which has been adopted, for I shall shortly have to show that in two instances the results, even from the first, have been highly satisfactory, at least with the forceps.

Third. Indeed, I lay the greatest weight of all on the instrument used, and the *mode* and *time* of using it, in procuring for us successful results. The instrument I use and recommend must be familiar, from the drawings at any rate, to those who have read my papers referred to, and I have spoken in these so fully of the great advantages it possesses, that I am almost ashamed to say more on the subject. This form of forceps is, however, so intimately connected with what I consider distinctive in my practice, that, without such an instrument it is impossible, if it should be considered desirable, to apply it as I have done, for I find I almost invariably place the blades antero-posteriorly, or nearly so.

^{*} See British and Foreign Med.-Chir. Review, October, 1871.

The advantages of grasping the head in this way I think, and have attempted to show, are enormous, and I feel confident, from an experience of half a lifetime, that the practitioner who once gets and uses the forceps as I have directed will never feel that he needs another. Practitioners who read this may be inclined to say to me, "But I cannot use my forceps as you do, for they are double-curved, and were recommended to me by my teacher as the best made." Very true, possibly; but my reply would be, "Try to remedy this state of things, and get from Mr. Young, of Edinburgh, who made mine, a forceps such as I have described, and I think you will find it the best investment in instruments you have ever made. Get," I would say, "the three blades, for though I have generally managed to dispense with the short blade, it gives a good hold where the os sacrum is very prominent, and it can be laid aside when the labour advances."

The stronger instrument I have latterly used possesses decided advantages over that originally designed by Dr. Ziegler, from its greater length and strength, and from other circumstances which I have mentioned. Since my last paper appeared I have met with a case which showed this very decidedly. I was called to a patient in labour a short distance in the country, and put my old forceps, because it was not so heavy as the other, in my pocket. This case proved very tedious, and I had to use the forceps. This I did assiduously for some time, but found that I constantly missed my hold. I, in consequence, despatched a quick messenger for my stronger instrument, and with it at once finished the labour.

I still notice in the journals the complaint that "the forceps slipped, and perforating or crushing had to be resorted to;" but I almost never have to complain of this with my instrument. The hold which I get is generally perfect. The solid blade, as I have mentioned before, also seems to me to be an improvement, for there is no catching in introducing it or in pulling with it, and there is not even a scratch left where it has been fixed. Two of my recent cases had the face to the pubes, and the solid blade was at

first in both applied over the face, without the slightest injury to the skin.

What has been said will show the kind of instrument I use and recommend, and its *mode* of application; but a distinctive feature of my practice is also—

Fourthly, the time, in the course of the labour, when the instrument is resorted to.

This I find is, in the great proportion of cases, when an ear is near the pubes, before the face has taken the turn into the hollow of the sacrum, if it ever does that. The last time, many years since, I had to use the forceps when the face was in this latter position was when called to assist a midwife. In my own practice I usually anticipate this stage, so that formerly mine would have been classed as long-forceps cases. Usually, I find that the forceps is introduced, measuring from the external parts of the mother, about nine inches, while the old short forceps measures only ten altogether. I always, when I get my hold, which is generally effected in a minute or two, or less, use traction at first, and am pleased if the face takes the turn into the hollow of the sacrum. If it does not, I use leverage,* and make the head revolve round the pubes until it is delivered.

Having given these details, which are really in great part repetitions of what I have said before, I will now state the results of my practice since September, 1871 (the last date to which the two series were brought up, by this general statement, that there had been no fœtal death in forceps cases, occurring in the usual ratio, for ten years), and which I would much rather, with a few explanatory observations, have given in the form of notes to a reprint of Dr. Dunster's paper. I thought, indeed, that I had written enough on the subject, and that those who were not convinced by the statements I had made of the value of the forceps as a con-

^{*} For what I mean by leverage, see paper in British and Foreign Medico-Chirurgical Review for January, 1872. I am atraid that even Dr. Dunster (from what he says at pages 32-33 op. cit.) does not yet fully appreciate the advantages derived from the use of leverage, as I have explained it. Indeed, he cannot, for he says he uses the double-curved forceps.

servative instrument were a little impervious to reason. This series, extending to 1878, although now necessarily small from my advancing age requiring that I should gradually withdraw as much as I could from this line of practice, is yet, I think, the most valuable in some respects of any I have given to the profession; for I have had entire confidence in my mode of treatment and in my instrument, and my patients, I think, have had as entire confidence in me. I think I can especially recommend it to the younger members of the profession, as giving a rule in regard to the ratio in which they must make up their minds to have to use the forceps in a mixed healthy population, such as I practise among, in order that a very low rate of mortality may be attained; in other words, that a satisfactory practice may be followed.

The series, (not an isolated one, it will be remembered, but the third successive one of the same kind, extending over thirty years) then, included one hundred and sixty-seven consecutive cases. All the mothers made excellent recoveries, and all the children were born alive, except one, in a forceps case. The forceps was used in thirty-one cases, or one in between five and six. Twelve of the children were born just before I arrived, but no accident happened to either mothers or children.*

I may say, also, that I have excluded decidedly premature children—say in the

^{*} Of course I here include, as before, only cases under my own care, and viable children. In this matter I have tried, as far as I could, to draw a "hard and fast" line, and this can be done accurately in regard to the children included, when we adopt the rule that has guided me, that when the child breathes and the heart beats after birth, it has to be classed with those born alive. In regard to those which ought to be excluded, no rule that I know of can be adopted with such exactitude. If the child be putrid, of course the rule is clear; but if merely dead, the case is more difficult. Let us say, for example, that the mother gets up in the morning and feels suddenly faint, or faints altogether; that no movement of the child is felt afterwards; that labour comes on ten or twelve hours afterwards; that a dead child is born, and the placenta has a large clot of blood in its centre. Here, I say, we are entitled to say that *almost certainly* the child was dead when labour commenced, and ought to be excluded from those that *could* be born alive. Others of a similar kind must suggest themselves to every experienced practitioner. Dr. Galabin has objected to two cases of this kind, which I have referred to in my first series, and which I excluded. Such cases in my last thirty years' practice have been so few that they do not materially affect the conclusions I have arrived at, being, in fact, only four in number, and they do not in the least affect the main portion of the present question, for none of them were forceps

In making a few remarks upon this series, I shall speak first of the mothers.

All the mothers here recovered excellently well; but I have to repeat, what I have so often and strongly insisted on before, that this is really at best a very fallacious test of the value of a practice, and that the question as to the cause of mortality here has to be settled rather by opinion than by statistics. In proof of this I may say that, during the time this series has lasted, I had to see in the practice of others five cases in which the mothers died. Three of these occurred nearly at the same time in the practice of a very cautious midwife, who has assured me that the labours were all of the easiest possible description. The two others were in the practices of professional brethren, and the labour in one of them, I was also assured, was natural and easy. On the fifth I shall say a few words. I was called to a woman in labour, three miles distant from any medical man, and found that she had been in labour from the previous day, and was in such an exhausted state that her friends had become seriously alarmed about her. I was shortly afterwards joined by the gentleman in attendance, and at once said that I thought he should lose no time in applying the forceps. This he attempted to do, using the double-curved instrument; but in a short time gave up the attempt, as he was unable to fix the blades. I had then to try to deliver the woman, and did so, with my own forceps, in a few minutes, the child being

sixth month, or more—though they have breathed, or even lived for a short time,

classing them as non-viable; that is, up to about the sixth month.

With these explanations and precautions, I think it will be seen that it would be pretty difficult "to arrange figures to serve a special purpose," as Dr. Dunster

To be more particular, the two objected to by Dr. Galabin (op. cit. p. 569), were of this kind, and were in my first series. In the placenta prævia case, in the seventh month, I deprived the child of life before the proper labour commenced, by detaching the placenta, to save the mother. In the second case the mother had jaundice, and there were no signs of foetal life immediately before the labour or after delivery, but the child was not putrid. The third case occurred in my second series, and was similar to this, but the mother was healthy; and the fourth, second series, and was similar to this, but the mother was healthy; and the fourth, which had the clot in the placenta, was in my third series. All these labours were perfectly easy. No doubt I had a "special purpose" in view in writing all my papers. Assuredly, however, that was not for the parade of empty statistics, but for the statement of facts, and the establishment of solid principles, to guide us in practice. If I have assumed, what had previously been neglected by most others, that the case should be under my own care, and the child viable, I should like to know how safe conclusions could have been arrived at without doing this?

putrid. Now here, if I were asked my opinion as to the cause of the patient's death, I would say, without the slightest hesitation, that, as far as the forceps was concerned, it had nothing whatever to do with it; that, in fact, the use of this instrument gave the woman by far the readiest and best means of getting out of her perilous position. If I were asked, then, to say what I thought had been the cause of death, I should say again unhesitatingly that there might have been other factors in operation, but that the chief one undoubtedly was the long and exhausting effects of the labour before the forceps was used. To be plain, indeed, to talk of the use of the forceps, as I now use it, being in such cases as this a probable cause of death, seems to me simply nonsense; not that I have not seen in my time some deplorable cases of this kind, but these were abuses of the instrument, or arose from defective knowledge and instrument, and do not belong to the use of the instrument as we are entitled to speak of it now. It must be admitted, on the other hand, from the statements of many writers, that where baneful epidemic influences have been absent, protracted labours and slight instrumental interference are compatible with a low maternal mortality.**

I shall be excused also in saying a few words as to the only child which I lost with the forceps in this series, especially when I say, besides, that it is the only fœtal forceps death that I have had since December, 1860,† though I have been using the instrument in every sixth or eighth case.

^{*} Dr. Dunster insists very properly on what he believes to be the fact that, though in such instances the mother survives, she does not always escape without injury—urinary fistula, rupture of perinæum, or some other mishap remaining. So free has my whole practice been from such injuries that I can recollect of only one urinary fistula that occurred in its early portion, and I never have had a single case of rupture of the perinæum—that is, of the skin, or more than takes place in a natural labour. I mention this last fact specially, because it has been objected to the use of the straight forceps that it would be apt to injure the perinæum.

So many years have elapsed since I have had to use the catheter, either before

So many years have elapsed since I have had to use the catheter, either before or after delivery, that I cannot recall to mind more than a case of each in which this practice was required. I have, therefore, read with no little surprise the following in Dr. Croom's paper on retention of urine in the female, in the May number of the Edinburgh Medical Journal for the present year:—"Dr. M'Culloch, one of the present residents in the Maternity Hospital, has noted for me the cases where retention of urine has occurred after perfectly normal primiparous labour during the past two months. Five such have occurred, and in each there has been a more or less extensive rupture of the perincum."

† See British and Foreign Medico-Chirurgical Review for October, 1871, p. 449.

This patient was a primipara, aged thirty-three. I had to apply the forceps at the brim of the pelvis, and got the uterus over the head; but after working hard at intervals all night, and with the forceps doing its duty splendidly, I had to get the assistance of a brother practitioner, give chloroform, and perforate. The child was a large male, and I might have done what I did in two other such cases-viz., turned and delivered, or tried to deliver, to give it a further chance of life. In one of these the child was saved, and is now a fine boy sixteen years old, but the mother died. In the other both child and mother were lost. In the present instance the mother was so exhausted that I thought it prudent for her sake to perforate.

The same patient again had a labour included in this series, another boy, and again I had a hard night's work, this time, however, with the result that the child, though asphyxiated, was revived by persevering efforts, and lived fourteen hours, when it died. The mother made an excellent recovery after both labours, and the parts, as far as I know, were entirely uninjured. Such a disproportion between child and pelvis has been very rare in my practice, for I go back more than thirty years before I find one like it.*

I will now make a few remarks on the statistics of this

^{*} It was arranged that this patient should be subsequently confined in Edinburgh, under Dr. Matthews Duncan's care, and she was prepared to have labour induced prematurely, if necessary. Dr. Duncan, however, decided to allow the case to run to the full time, and I am indebted to the kindness of Dr. Duncan and Dr. Underhill, who was then his assistant, for the particulars both of this labour and of another which she has lately had under Dr. Underhill's care. The following are extracts from Dr. D.'s case-book:—"July 22, 1876.—Waters broke at midnight. Soon after Dr. Underhill found os nearly fully dilated; head high up. Four A.M. pains commenced—frequent, severe. Sagittal suture transverse, and near the promontory of sacrum. First position of head. 10.30 A.M., Dr. D. turned. Some delay in birth of head. Traction and supra-pubic compression. Child (female) alive (and survived). No temporal depression remains after birth. Head distorted. Left side flattened. Right side arched upwards in a vertical shear. Left parietal bone over-ridden by right. Pelvis measured by hand internally gives conjugate of 3 inches. Bitemporal diameter 3\frac{1}{4}. Biparietal 3\frac{1}{4}."

In the next labour Dr. Underhill was sent for on April 14th, 1878, at 10.30 P.M.; found the os dilated, and the membranes entire. Got Dr. Playfair's assistance to give chloroform and help him, and an hour later turned, with the fingers in the uterus and a hand outside, getting hold of a foot before the waters broke. This, he says, "made matters comparatively much easier. The arms were retained alongside of the head, and in my hurry to bring them down, I broke the left collar-bone. The head came through the brim without much difficulty, and a living male child survives. I think delivery was much facilitated on both occasions * It was arranged that this patient should be subsequently confined in Edin-

question, with which, however, I confess myself quite unable to deal properly from not having adequate references at my command; and, as bearing upon this point, I have to beg attention to the fact that my first paper was on "The Proper Management of Tedious Labours," and was published in 1853.* No doubt the more frequent use of the forceps was there recommended; but this was made to merge in the more general rule that the second stage of labour should not be allowed to last more than about two hours,† and a variety of other suggestions have been given in my different papers in order that a low ratio of mortality, both feetal and maternal, should be attained. I may further remark that, though at first sight the two quotations I have given from the review of Dr. Murphy's "Principles and Practice of Midwifery," and from Dr. Galabin's paper, look like each other, they are in reality very different; for, in the first, the fœtal loss in 78,892 labours is stated to have been nearly twenty-five per cent. (and recollect that the fœtal mortality, even so late as 1868, is stated (loc. cit., p. 450) to have been twenty per

by external pressure on the head." Dr. U. adds that when Dr. Duncan delivered, "the child was asphyxiated, and it was some time before it showed any appearance of coming round. I believe the difficulty with Mrs. — was not so much a great absolute narrowing (for the last child has a big head, and it was not at all marked or indented) as on the great obliquity of the plane of the brim. The promontory is exceedingly high, and it would, I should think, be very difficult to get any forceps, without a much greater pelvic curve than usual, properly applied to the head." Notwithstanding what Dr. Underhill says, I applied my instrument, without any pelvic curve, antero-posteriorly, in the two first labours of this patient without the least difficulty, and, as I have already said, it held splendidly. The real difficulty with me was to get the head through the brim. Dr. U. adds, "I had great difficulty in getting down the arms, and fearing delay would sacrifice the child, as there was sure to be delay when the head came into the brim, I suppose I was rougher than I should have been—hence the fractured collar-bone." Dr. Duncan, in his obliging note to me, says, "Occasionally a good big head ance of coming round. I believe the difficulty with Mrs. --- was not so much a Dr. Duncan, in his obliging note to me, says, "Occasionally a good big head comes through a three-inch pelvis." The parents think the first child was the largest of the four.

* Dr. Dunster says, "My attention was first called to this question in January, 1869, by a somewhat startling paper (Edin. Med. Journ. 1866) from the pen of Dr. James Hardie, of Manchester." But my first paper on the subject was published in the Brit and For. Med.-Chir. Rev. for 1853, as Dr. Dunster afterwards

states. Dr. Galabin does not mention Dr. Hardie's paper.

[†] Sir James Simpson, as I have remarked in my previous papers, had, as we say in Scotland, an "inkling" of this important rule when he tried to show that the feetal mortality was in the ratio of the length of the rehole labours, but in this I have no doubt he afterwards saw that he was incorrect, as indeed he admitted in a discussion we had on this and other points in the Edinburgh Obstetrical Society. His predecessor, the late Professor Hamilton, again, wished the first stage to be limited to twelve or fourteen hours, but this also I have no doubt was a mistake.

cent. in the Edinburgh Maternity); whereas the average of the eighteen practices (besides my own) given in Dr. Galabin's "Table II." I find to be about four and a half per cent.* Most of these returns are of recent date, and none go above 8.6 per cent.; so that we have now apparently attained to a more satisfactory condition than in 1852. To be upon sure ground, let us take the gain at only fifteen per cent., leaving the rest, say, for non-viable children. Now, I have said (loc. cit., p. 461), "if we take the annual births in the United Kingdom to be about 1,000,000, a lessening of the infantile mortality in these by only one per cent. would give us a saving of infant life in each decennial period of not less than 100,000;" so that here, in modern practice, we have an apparent saving at the rate of 1,500,000 every ten years. such has taken place, I claim to have something to do with this vast improvement, both because it is universally admitted that the forceps is at present much more frequently used in general practice than formerly, and because the other rules I have insisted on in "The Proper Management of Labours" are now more rigidly attended to than they were formerly; and I claim, further, that my statistics should be compared, at least in the first instance, with those resulting from the practice originally attacked, and not with the more favourable ones of to-day, which possibly may have been brought about, to a certain extent, by that very attack.

Coming now, to my general statistics, (which I give minutely for the satisfaction of those interested in the matter,) there are, 1st-731 successive births without any fœtal mortality, up to 30th Dec. 1860, when, as I have stated, I lost the child in a forceps case. 2nd. From that date to 1st Sept. 1871, I had 472 births, with one feetal death in a footling case; and, 3rd, I have now given 167 births, from Sept. 1st, 1871, to May 1st, 1878, with one feetal death, in a forceps case—thus giving 1371 successive births with only three deaths.+

that is quite a mistake. All cases are included.

^{*} Dr. Galabin says (page I, op. cit.), "various statistics have been quoted as evidence that a large proportion of the general ratio of still-births—namely, one of between four and five per cent.—is preventable by a timely resort to forceps."
† Dr. Galabin inadvertently states that I included only vertex presentations, but

In the first 732 births the forceps was used ninety-seven times, with one death, and in the remaining 639 cases ninety-three times, with the same result, thus also making 190 forceps cases, with two deaths. It thus appears that I used the forceps up to Dec. 30th, 1860, once in every seventh to eighth case, and since then somewhat oftener, or in rather more than every seventh case.

Looking now at these three fœtal deaths, if I were asked, "Might any of these have been saved with the means you at present possess?" I should answer "Yes; I think the 732nd child might have been saved, because I now have a very superior instrument compared with that I then used." The footling case, I think, could not have been saved, and I have said that any further attempts to save the other child might have cost the mother her life also.

Coming, again, to the maternal deaths, although I have said that this is a most fallacious test of a good practice, and that it is a good general rule to follow that, cateris paribus, safety to the child implies safety to the mother, I nevertheless give these here. In the British and Foreign Med.-Chir. Review for Oct. 1871, page 450, I have said, "In the 731 cases referred to there were six maternal deaths, but in only three of these was the forceps used. Of the latter cases one died from disease of the heart, and another from asthma; so that in reality there was only one case in which the forceps could have to do with the death. Since then," I continue, "my practice as to maternal mortality has been entirely satisfactory." There had been, in fact, when I wrote this in 1871, four more deaths in 472 cases, and now, in May, 1878, there have been in the three series ten deaths in 1371 cases.* In only one of these last four cases was the forceps used. There was no great difficulty in using the instrument, but it was introduced within the uterus.† The three others were peculiar, and may here be briefly referred to.

The first had an ordinary natural labour, which was almost immediately followed by perhaps the largest gush of blood I

^{*} This is certainly very different from Dr. Galabin's Table II., where I am debited with a maternal loss at the rate of 48 per 1000.

† In another of the same kind a sharp attack of peritonitis followed.

have seen in my practice. This I immediately managed to restrain by my usual mode of treatment, as to which I shall have to say a few words presently. The woman went on perfectly well, and I had ceased attending regularly, when I was suddenly called to her one evening, and found that she had risen out of bed to open her door for some one, that another sudden gush of blood had been the consequence, and that she had almost instantly expired.

In the second case the child was born about twenty minutes before I arrived, and there had been some little flooding, but not more than can be easily borne by most females. I immediately prevented almost a drop more blood being lost, and used other means to rally my patient, but she floundered on for several hours, and ultimately sank. After death I made an examination, and satisfied myself that there had been no internal flooding; and my opinion is that death occurred chiefly from the highly excitable nervous temperament of the woman.

The third case almost passes out of the class "postpartum," for the woman was going about for some time before the hæmorrhage occurred. She was, in fact, "delving"* in her garden, twelve days after her confinement, when she was seized. The hæmorrhage was not great at any one time, but it continued persistently for some eight or ten hours, notwithstanding all my efforts, assisted by a brother practitioner, who kindly gave me his aid; and I had at last to resort to the injection of a solution of the pernitrate of iron, which after some time stopped it. Peritonitis came on next day, and death took place two days afterwards. Fortunately this is the only case in which I have had to resort to the injection of an iron styptic, for the practice I usually follow has been, except here, uniformly successful. The parts had become so contracted that I could not ascertain with exactness where the hæmorrhage came from, nor could I apply pressure with my usual freedom and precision.+

^{*} This word, rendered into English, would, I suppose, be "digging," but the Scotch one is much the better of the two.

[†] I may refer those interested in this question to my paper on the subject in the Edin. Med. Journ. for Oct. 1850, and may say here, shortly, that my practice

152 On the Proper Management of Tedious Labours,

In my latest practice, as well as throughout the whole of the series of cases given, I have used the ergot and chloroform as seldom as possible; the first only in a case or two near the close of the labour, in anticipation of probable flooding; the second also only near the close of labour, and when the head could easily be grasped by the forceps if necessary, and this, indeed, in only a very few cases.

Keeping in view the grand principle that comes out in my practice, that it is the length of the labour, and especially the length of the second stage of the labour, that is dangerous to the life of the child, Dr. Dunster makes some statements (p. 27, op. cit.) which suggest to me a few remarks. He says, in speaking of a case which was under his care, "The first stage of labour, during the first half of which the pains were very slight and irregular, was protracted to thirtysix hours, a longer time than any I have noted for several years past. The uterus did not act to advantage from the fact (learned later on in the labour) that the quantity of liquor amnii was immense. She was under the influence of chloroform in the latter part of the first, and all through the second stage, which I terminated with the forceps at the end of four hours, as the pulse had already shown a tendency to rise, and but little advance was making. After delivery the pulse rose to 120, and on the following ten days it fluctuated between 112 and 124, with a temperature of 101° to 103°." This was followed by an attack of phlegmasia dolens, and the doctor adds in a note, "I am by no means certain now that it would not have been wiser to have used the forceps some two hours earlier than I did." For my part I can have no

consists in as quickly as possible emptying the uterus after the child is born, by pressing firmly on the uterus above the pubes, and gently pulling the cord, &c. When flooding comes on, if slight, I at once again empty the uterus by pressure, as before, and by introducing some fingers into the vagina, or the whole hand if necessary into the uterus, to remove the clots. If the flooding prove severe, I then introduce my right hand into the vagina and place it under the uterus, and with this, and the left hand above the pubes, use pressure and counter-pressure. In our discussion on this subject, in the Edinburgh Obstetrical Society, Sir James Simpson said that he preferred limiting himself to pressure above the pubes; but this I have since then found to be insufficient in certain cases, from an anatomical peculiarity existing in the hollow of the sacrum, behind the uterus. Supra-pubic pressure fails to bring the posterior wall of the uterus to press on the bone. It requires the introduction of the hand to get solid counter-pressure.

doubt about it; and I must be allowed to say also that, if the patient had been mine, I should have considered it decidedly bad practice to have kept her more than a quarter of an hour under chloroform, instead of having the labour retarded during, say, twelve or fourteen hours.

Let the young practitioner remember, when he tries to annul the pains of labour by the use of chloroform, and thinks, it may be, thus to increase his popularity, that he also retards the labour, and that he is therefore violating the great law as to the danger of protracted labour, which has been so strongly insisted on; and perhaps accoucheurs moving in even the highest spheres will be none the worse for keeping the same in mind.

In regard to the general statistics, it would be invidious for me to compare, more than has already been done, the results obtained in my own practice with those brought out in the practices of others, with the particulars of which I am not at all, or am only imperfectly, acquainted. I think, however, I am at least entitled to say that I have been able to prove that, in a locality with a healthy well-formed population, the infantile mortality at birth may be-shall I say ought to be?-made much smaller than has hitherto been held to be a necessity of the labour process. Further, I think I am also entitled to say that, when required, the forceps can be used in every sixth or eighth case with perfect safety both to mother and child; nor do I think (though Dr. Playfair has said that "nothing is more remarkable in modern midwifery than the results published by Dr. Hamilton, of Falkirk, which have not attracted nearly sufficient attention") that there is the least difficulty in any capable practitioner attaining similar results under like circumstances, if only he will follow the rules that have guided me, and use the same instrument as I have done. I have no secrets to conceal, and I think no more than average dexterity in manipulation is required for the purpose.

In concluding what I have to say as to my own practice, therefore, it may be useful to summarise, to the practitioner or beginner, what I consider the principal rules that have to be attended to in the management of tedious labours:—

Ist. Remember that it is the length of the labour that especially proves hurtful to mother and child. This holds good as to both, but especially as to the latter. The first stage of labour should be little, if at all, interfered with; but its length should be a guide as to the second, which should not usually be allowed to be prolonged much beyond two hours, and much less when the first stage has been long and exhausting.

2nd. Usually the shortening of the second stage has been effected by supporting and pushing up the uterus over the head, or by the use of the forceps.

3rd. Get rid of the double-curved forceps. This I consider to be vital; I have used Ziegler's straight forceps (now slightly altered) for some forty years, and I find that the pattern I now use supplies every want I have felt, in my own practice, and in assisting others, since 1832. (See drawings in *British and Foreign Medico-Chirurgical Review* for January, 1872.)

4th. If the rule as to shortening the second stage of labour be attended to, and the forceps is required, an ear will *generally* be found at or near the pubes, and, when an ear can easily be felt, I usually consider the case safe. Here slip in the blade No. I (without fenestra), and the other will usually without difficulty slide into its place.

5th. It will thus be seen that I generally place the blades antero-posteriorly, or very nearly as represented in Smellie's 4th Plate, though the instrument used is different.*

6th. If the head should be higher, the forceps can still be used excellently well antero-posteriorly; but get hold, in this case, wherever you can, and by traction advance it into the pelvis. Then shift the blades and place them over the ears, or over the ear and parietal region, still using traction. If this should not succeed, try at the same time to turn the face (to the right or left as the case may be) into the hollow of the sacrum. If this again should fail, try traction and leverage combined (see *loc. cit.* page 176), by making the

^{* &}quot;Obstetric Plates." By William Smellie. London: Samuel Highley, 32, Fleet Street. 1837.

head, without turning, revolve round the pubes. When this last force can be brought into play it is the most powerful of all in effecting delivery. When the face is towards the left, of course, from the presence of the rectum, it is not so easy to make the head turn with the face into the hollow of the sacrum as when the face is towards the right. In such a case I have occasionally pushed the head up and turned the face from the left to the right side and then delivered. When the face is towards the pubes the same can be done.

7th. Podalic version, perforation, and crushing, remain as our other resources; but as to these I have nothing to say, except that where the forceps is properly used they will very seldom be required.*

Even in breech and footling cases, when the head comes into the pelvis, Professor Busch, of Berlin, has shown that the forceps can be used very effectually.

8th. Refuse to give chloroform or ergot in the first stage, and in the second as seldom as possible, the first near the close of labour, the second to increase the pains and bring the head within reach of the forceps, or at the close to anticipate flooding.

9th. Though it may be necessary occasionally to introduce the forceps within the uterus, try to avoid this as much as possible by assiduously pushing up the uterus with

^{*} I have had so little experience in podalic version that I cannot venture to speak regarding it with any confidence. In general practice I may, however, say that breech and footling presentations usually give me more anxiety than any others; and it will be seen, from what I have stated, how seldom anything beyond the practice I have followed, has been required. My late neighbour, Dr. Figg (then of Bo'ness), took us all very much by surprise when he announced, a good many years since, that he converted all vertex into footling cases, and contended that this should be our usual practice, 1st, because he was more successful is saving feetal life than was then common; and 2nd, because the practice was really liked by the mothers—both of which statements were probably correct. really liked by the mothers-both of which statements were probably correct. It was not very difficult to make the feetal losses less than 15 or 20 per cent., and I have heard from persons resident in the locality that many of the mothers rejoiced have heard from persons resident in the locality that many of the mothers rejoiced at being put under chloroform and delivered at once. In later times the fact has emerged, that a head by this means will sometimes pass through a pelvis when the forceps has failed to deliver; and I think I see, in certain formations, how this should occur. In podalic version we bring the face along a sacro-iliac synchron-drosis, or, in other words, place the head in relation to the pelvis diagonally, thus escaping from what I call "the trap," formed by the anterior portion of the outlet of the pelvis, in which the vertex may have been firmly fixed. See on this point British and Foreign Medico-Chirurgical Review, January, 1872, p. 181.

the fingers or hand both anteriorly and posteriorly, for the application of the instrument is thus made easier, and the risk to the mother is lessened.

10th. If the child should be seriously asphyxiated when born lose no time with other measures, but instantly inflate its lungs with the mouth. (Vide Edinburgh Medical Fournal, May, 1855.)

11th. Remember when the face is to the pubes, that rotation to the left is sometimes easier than to the right, the reason probably being that the occiput encounters the rectum when the face is turned to the right. In 1841 a case of this kind foiled me, and I had to perforate. My 732nd case, also, had the face to the pubes.

12th. If flooding follow delivery, and supra-pubic pressure and emptying the uterus of clots fail, use pressure and counter-pressure, by introducing the right hand under the uterus, and placing the left above the pubes; and keep this up till the hæmorrhage stops, sometimes little short of an hour. (Vide Edinburgh Medical Fournal, October, 1850.)

Note.—I have no means of knowing accurately how far the different rules and circumstances, which I think procured success in my own practice, have, since my different papers appeared, influenced the practices of others. Quite probably some of my suggestions have been attended to, while others have been either neglected or disapproved of, with, it may have been, correspondingly different results. With my son, Mr. Alexander Hamilton, surgeon and physician in Ashton-under-Lyne, and my nephew, Mr. Alexander Hamilton, surgeon and physician in Chester, however, I know that this has not been the case, for I am aware that they both, since they settled in practice, have had the same forceps, and have been guided generally by the same rules as myself. In concluding this paper, therefore, I applied to them for the results yielded, which I append:

In my son's practice the number of cases has been 449, the fœtal mortality in all 4, and the forceps cases 73 (or not quite I in 6, 4I being primiparæ), with I fœtal death. The maternal mortality has been, over all, 2, and where the forceps was used, I. Commenced practice in 1870, and in 1871 and the following years delivered successively 190 patients without a loss of either mother or child; and in none of the cases has death occurred to both mother and child. As to the fœtal circumstances, which I think procured success in my own practice, have, since my

none of the cases has death occurred to both mother and child. As to the feetal mortality, my son says, "The first was one in which the placenta had evidently separated before the birth of the child, as both child and placenta were born

together, and the labour was one of the ordinary character.

'The second was one in which the forceps was employed, and in which, although there was considerable rigidity of the soft parts (the woman was a primipara), there was nothing else which would have led me to suppose that the child would not be born alive.

"The third was a shoulder presentation, in which some delay had occurred in sending for me, and where the uterus was considerably contracted. I turned, and

found considerable difficulty in delivering the head.
"The fourth case was one in which I had to open the child's head, owing to pelvic deformity, the same woman having on three previous occasions been delivered in the same manner.

"With regard to the maternal mortality, the two cases were both of puerperal fever. One was delivered by the forceps with little difficulty, and with a living child, no laceration having occurred to the mother; in the other, the labour was quite normal, and I could account for the fatal result only by the fact that there

were other cases of the fever occurring in the neighbourhood.

"The kind of forceps I employ is, as you know, your modification of Ziegler's straight instrument, and in the chief proportion of forceps cases I had not the slightest difficulty in applying the blades. As a rule, they may be said to have been used antero-posteriorly, as, although the blades may have been a little on one or other side of the middle line, practically the force was from before-backwards. Again, the force was a combination of traction and leverage, but principally the latter. I have found that if any mark takes place upon the head, it is where the anterior blade has been applied; not that I have had much marking, as the most that has occurred has been a slight bruise, and on no occasion has there been a wound of the skin.

"On some occasions I have found difficulty in applying the posterior blade (where you recommend a shorter one to be used), but by a little management, and using the posterior as a short blade, I have succeeded in bringing the head down

so far as to be able to apply both blades completely.

"It will be gratifying for you to know, that amongst the practitioners in this district, and even among the midwives, the importance of the early use of the forceps in the second stage of labours, which from any cause have been delayed, has come to be fully recognised, and it is not often now that I am called to a case in which the child has died from mere delay on the part of the midwife. With regard to the use of chloroform, I may say I very seldom employ it. With the exception of some cases of turning, and in the case of craniotomy, I do not remember having used it. I have never used it in any of my forceps cases. This I believe may account to some extent for the immunity I have had from postpartum hæmorrhage. In the whole of my practice I can recollect only three cases in which I had any reason to fear danger from this cause. In two of them I succeeded in stopping the hæmorrhage entirely by first emptying the uterus and vagina of clots, and then compressing the uterine walls between the two hands, one in the vagina and the other on the abdomen. In the third case, although by this means I was able completely to control the hæmorrhage, still it immediately returned on removal of the pressure; finding it, therefore, to be so, I injected the perchloride of iron with a satisfactory result. In many other cases I have been threatened with flooding, but by immediately rapidly removing the placenta and clearing away all blood clots from the maternal passages, and compressing, I have soon stayed the discharge."

My nephew commenced practice in 1871, and his observations, on most points, agree very much with those of my son. He has used chloroform and ergot as seldom as possible, and has never found pressure and counter-pressure to fail in post-partum flooding. He has had 520 cases in all, in which the forceps was used 99 times, but these occurred both in his own practice and in that among midwives, &c.; and I find that he has not uniformly used Ziegler's modified instrument, but also the old one, and the double-curved forceps. He has lost in forceps cases attended by himself three children (two in the early years of his practice), and one mother. He has had in all nineteen feetal deaths, and eight maternal; of the latter, two were due to septicemia, two to puerperal convulsions, two to placenta przevia, and one to ruptured uterus. Of the other feetal deaths,

five were in forceps cases among midwives, and ten were in version cases.

RHEUMATOID INFLAMMATION OF THE JOINTS IN WOMEN.

By N. DAVIES-COLLEY, M.A., M.C., F.R.C.S. Senior Assistant-Surgeon to Guy's Hospital.

IT has occurred to me on several occasions to observe an affection of the joints, which from the definite character of its symptoms and course seems to deserve a distinguishing name. From the fact that the condition of the articulation attacked resembles very much that of acute rheumatism, I think that the term "Rheumatoid" may aptly be applied to the disease. It should at the same time be remembered that I do not desire to imply that it is in any way connected with so-called chronic rheumatic arthritis.

Most of the cases I have seen have been admitted into the medical wards as suffering from some form of rheumatism. I cannot recollect having ever seen a joint disease in the male exhibit the symptoms which I am about to describe. In all the females, on the other hand, whom I have seen suffering from this affection, it has been associated with some uterine or vaginal irritation.

CASE I.—About ten years ago, when I was house-surgeon at Guy's Hospital, I was asked by one of the nurses to see her daughter, who had been recently married, and had got a bad elbow. The girl was about twenty years of age, and in the third or fourth month of pregnancy. Her right elbow was red, much swollen and acutely painful. She had had no injury to the joint, and I forget to what she attributed her trouble. I quite expected that it was about to suppurate, and was much surprised when after watching it carefully for two or three weeks, I saw the inflammatory symptoms gradually subside. Finally she got well, but was left with considerable stiffness of the elbow.

CASE II.—A woman, aged twenty-two, came to me as an out-patient in March, 1873, with the following history:—She had been married three and a half weeks before. Three days afterwards she was at Woolwich Gardens, and was there exposed to cold. Soon after she noticed pains in her

left hip, then "rheumatics" in her right arm, which had been bad ever since. The swelling, however, had only been considerable for about five days. There was redness and ædema of the whole of the right arm down to the fingers. It was especially large at and above the elbow, and in this situation it was very tender. I could feel no fluctuation, and I could not detect any cord-like induration along the course of the veins, in support of my first impression that she was suffering from phlebitis. Her general health was good. She was kept lying down with the arm swathed in cotton-wool, and in five or six weeks the swelling had gone, but the joint remained very stiff. Nine weeks after I first saw her, she could only move the elbow through about ten degrees. I then used force to break down the adhesions, and I cannot say whether she ultimately recovered the full use of her arm, as she ceased attending. In this case I have no record as to pregnancy or leucorrhœal discharge.

CASE III.—In July, 1874, S. W., twenty-one years of age, was admitted into the hospital two months after her marriage, suffering from a swollen knee. Four or five weeks previously she had noticed pain in that joint; then her right shoulder had swelled. Finally the left knee, which had recovered, became so painful that she could not walk. Her ankle also had been swollen for a short time. On admission the right knee was two inches larger than the other, and very tender. The skin over it was reddened. She was unable to bend the joint, and passive movement was very limited. Her catamenia were regular. After five weeks' treatment with rest and a splint she went out, able to walk about fairly, but still rather lame from stiffness of the joint. While in the ward she had two or three attacks of severe abdominal pain, but I can find no facts to indicate whether this was of an ovarian origin, or from any other cause.

CASE IV.—H. J., aged twenty-five, married four years, was admitted on 4th December, 1875, nearly a month after the birth of her second child. One week before her confinement the right knee had become swollen. She thought it was "the rheumatics." The right shoulder and carpus became also painful, and in the latter there was redness and swelling.

She had to go to bed, and one week later she had an easy delivery, but suffered greatly at the time from the pain in the knee. When I saw her the knee was still red and swollen, and had become stiff in the bent position. I had to straighten it under chloroform, and she went out able to walk with a stiff but straight knee.

CASE V.—In March, 1877, I was asked by one of our physicians to see M. W., who was suffering from inflammation of the ankle-joint, which was thought to be of a strumous character, and likely to suppurate. She was twenty-two years of age, and had been married nine months. About three months before she had been an out-patient under the Obstetric Physician, suffering from some difficulty in retaining her urine as she walked about. It was then noticed that she was pregnant. A little later she again attended with some vaginal discharge. Three and a half weeks before admission, pain came in her left hand, and three days after her left foot became swollen and painful. She then took to her bed. When I saw her she was in the sixth month of pregnancy. Her left ankle was very tender, red, and much swollen. Fluctuation could be felt about the inner malleolus. There had been a good deal of feverishness, but her temperature was then but little above normal. She was kept in bed and a conium poultice applied. In a week the redness went. The ankle was now kept at rest by means of a splint. In five weeks the tenderness and fluctuation had disappeared. and she went out well, with the exception of stiffness of the joint, for which, about four months later, she was again for a short time under treatment without much benefit.

CASE VI.—E. B., aged sixteen, unmarried, was admitted into a medical ward in May, 1877. She had been in service, and four days before her admission the attack had begun with slight shivering, followed by pain in the right elbow. The shoulder of the same side and the other elbow were also for a short time affected. On admission there was slight feverish disturbance, but her temperature was never observed to be higher than 100 degrees. Twelve days later I saw her, and found the right elbow much swollen, hot, painful, flushed, but not fluctuating. There was also cedema to some distance from the joint. The condition of the joint led me to suspect a vaginal or uterine cause, and I made some inquiries, which elicited that she was in the fourth month of pregnancy. She was transferred to a surgical ward, and remained under my care about six weeks. The redness and swelling slowly subsided, but the joint remained stiff. From time to time I broke down the adhesions, but she still found movement painful and she had but little power in her elbow when I last saw her. I may add that she told us her father was rheumatic, and also that in the medical reporter's notes of her case I find that a systolic bruit was noticed at the base of the heart.

To these notes I might add a case of inflammation of the carpus followed by stiff wrist in a pregnant woman, and also two cases of inflammation of the same region in women in whom I could find no other cause than obstinate leucorrhæa. I might also include several cases of joint affection of a similar character following parturition. These, however, may be said to belong to the class of pyæmic inflammations, so I prefer to omit them, although I conceive that they should usually be placed in the same category with the cases which I have just narrated.

I would submit therefore that there is a definite jointdisease characterised by great pain and tenderness, and more especially by redness and œdema of the soft parts in the neighbourhood. It is accompanied in the earlier stages by febrile disturbance, which, however, I have never noticed to be considerable. Usually a mild attack is noticed in other joints before the inflammation, so to speak, concentrates itself in one particular locality. The diseases with which it may be confounded are erysipelas, phlebitis, or acute suppuration of the joint. In the latter case the mistake might lead to serious consequences. The surgeon might be induced to make a free incision, and thus convert an inflammation which would have undergone resolution into a lingering suppuration. From most cases of erysipelas the absence of vesication and a high temperature would form a sufficient means of discrimination. From phlebitis the absence of the cord-like induration of the veins would probably enable us to diagnose it, although the œdema in some of my cases resembled very much that which accompanies thrombosis. If I may form an opinion from the limited experience I have had, the prognosis is so far favourable in that the inflammation will probably go away without suppuration. The joint will, however, remain more or less bound by fibrous adhesions; so the patient must expect some impairment of the usefulness of the limb. I have never had an opportunity of examining the condition of the joint after death or amputation I cannot speak with confidence upon the pathological character of the affection. Judging from the absence of fluctuation in most of my cases and the presence of superficial ædema, I have been led to think that the chief seat of inflammation is in the fibrous capsule of the joint rather than in the synovial membrane. If the latter had been primarily affected I should have looked for effusion inside the articulation, and consequent fluctuation as in the ordinary form of synovitis.

With respect to the causation of the disease, it will be observed that in all the cases reported or mentioned there was reason to suspect uterine or vaginal irritation. Some had severe leucorrhœa; others were pregnant, and of these all but one for the first time. In two cases there was no statement as to pregnancy, but as they had been married a short time previously, it is probable that either pregnancy, vaginal discharge, or frequent sexual congress was the source of irritation.

I have said before that I have not seen such a disease in the male. The only exception I would make to this statement is in the case of carpal and tarsal disease. there is often much redness and ædema as well as acute pain, and such inflammations, without suppuration, are not infrequent in the gouty and rheumatic of both sexes. I have never seen a case of joint affection like those I have narrated in the female, except when there was evidence of some vaginal or uterine irritation.

It may be alleged that these inflammations are merely examples of gonorrheal synovitis in the female, and I am disposed to admit that there is some alliance between the two affections in respect to their reflex origin through the nervous system. In the male, however, we rarely see any other joint affected than the knee, and the disease resembles an ordinary synovitis. In the women whose cases I have narrated, the elbow was quite as often affected as the knee. There was, moreover, great ædema and redness, with little, if any, effusion into the joints. The subsequent history was also unlike what is observed in gonorrhæal rheumatism. I cannot lay much stress upon the absence of a history of vaginal discharge in most of my cases, as probably no questions were asked upon the point, and even if there had been, the answers would not be reliable, unless an examination had been made.

If it is supposed that there was some vaginal discharge in each of the cases, which gave rise to the joint inflammation, it can hardly have been an accidental coincidence that so large a proportion of them should have occurred in pregnant women. I cannot find that works upon midwifery make any mention of the liability during pregnancy to such affections. Nevertheless, the facts which I have brought forward seem to show that pregnancy either directly caused the inflammation by some influence reflected upon the vaso-motor system, or indirectly assisted in its development in a patient suffering from gonorrhæa or leucorrhæa, by the debility due to the pregnant condition.

CASE ILLUSTRATING THE VIABILITY OF EXTREMELY SMALL PREMATURE CHILDREN,

WITH BRIEF REFERENCE TO SEVERAL ANALOGOUS EXAMPLES.

By Charles J. Cullingworth, Surgeon to St. Mary's Hospital, Manchester.

On March 20th, 1878, a woman named Sarah Gregory, the wife of an itinerant coal-dealer, brought to the out-patient room at St. Mary's Hospital, Manchester, her female infant, then four weeks old, complaining that the child did not thrive. It was the smallest living baby I have seen; its weight was exactly two pounds, and its length fourteen inches.

There was an abundance of dark hair on its head. Its face, especially the forehead, was covered with long down, and the entire absence of fat gave to its features that appearance of wrinkled age which is not uncommon in extremely wasted infants. The lips were of good colour, and the tongue was in a perfectly healthy condition. The eyelids were only occasionally opened. The body was perfectly formed, and the child moved its limbs with freedom.

The mother had borne eight children previously, all of them at full term. The last menstruation occurred at the end of June, 1877, and delivery took place, in consequence as she thought of having had unusually heavy weights to lift, on Feb. 19th, 1878, when she considered herself to be at the seventh month of pregnancy. I am not disposed to place much reliance on the woman's accuracy; she belonged to the lowest and least intelligent class, and was neither clean nor sober when she presented herself at the hospital. The child was in an exceedingly dirty and pitiable condition; and as the mother had scarcely any milk in her breasts and had to feed it artificially, I persuaded her without very much difficulty to leave the child in the hospital, where for the remaining fortnight of its life it was very carefully tended. It slept almost continuously, and was by no means fretful. A few drops of sweetened milk and water were given with a spoon at very frequent intervals. The weather was bitterly cold, but by keeping the child well wrapped up and placing it near a good fire in the nurses' kitchen, the body preserved its warmth very fairly. Whenever it was removed from its warm corner, it uttered a feeble cry of discomfort. The bowels were constipated, the kidneys acted freely. It was my intention to give the members of the Manchester Medical Society an opportunity of seeing the child at their April meeting, but unfortunately it died, after a series of convulsions, on the 2nd April, the day before the meeting. During its three days' illness it lost weight; a quarter of an hour after death the body only weighed I lb. I 11 oz. On the day of its death it was exactly six weeks old.

The case possesses some medico-legal interest, and this would no doubt have been increased if more trustworthy

information had been obtainable as to the exact date when the last catamenia ceased.

There exist authentic records of even still smaller children surviving.

Dr. W. T. Barker gives an account* of a female infant born when gestation had reached the 158th day (five and a half months). It weighed one pound and measured eleven inches. At four and a half years of age it was still of small make, but was quite healthy, and took its food well.

Dr. Bierbaum, of Dorsten, relates a case that came under the observation of Outrepont.† A newly married woman bore a child twenty-seven weeks after her last menstruation, and five weeks after her first perception of the movement of the fœtus. It was thirteen and a half inches in length, and weighed a pound and a half; it slept almost uninterruptedly and seldom opened its eyes; the pupillary membrane was present. At eleven years of age it was not larger than a child of seven or eight; in other respects its development corresponded to its age.

Mr. Robert Annan, of Kinross, tells of a child that was born between the end of the sixth and middle of the seventh month. When seven days old it weighed a pound and a half. Death took place when the child was four months and eight days old; its length was at that time barely eighteen inches, and its weight four pounds ten ounces.

Another remarkable instance is recorded by Dr. Rodman. of Paisley. A child, said to have been born between the fourth and fifth month, measured, when it was three weeks old, thirteen inches in length, and weighed twenty-nine ounces. It was still living when the account was published, being then nearly four months old.

Mr. T. E. Baker, of Buxar, in a letter published in the "Calcutta Medical and Physical Society's Transactions,"||

^{*} Medical Times, Sept. 7th, 1850, p. 249. † "Zur Lehre von der Lebensfähigkeit der vorzeitig geborenen Leibesfrucht,"

Medicin. Zeitung, Jahrg. 19. Berlin, 1850, p. 211.

† Medical Times, Sept. 9th, 1848, p. 304.

§ Edin. Med. and Surg. Journ., vol. xi., 1815, p. 455.

| "Transactions of the Medical and Physical Society of Calcutta," vol. i. Calcutta, 1825, p. 364 (appendix).

mentions the case of the wife of a riding-master in the 5th Native Cavalry, who was confined during a voyage from Agra when she thought herself about six and a half months pregnant. Her premature confinement was attributed to having over-exerted herself in removing some boxes. When the child was one month and twenty days of age it weighed exactly one pound thirteen ounces, and measured fourteen inches in length. Mr. Baker gives the dimensions of the principal parts of the body, and speaks of making some further observations if the child lives. I cannot find, however, any allusion to the case in the subsequent volumes of the Transactions.

In a paper* to which I am indebted for references to several of the cases here noticed, Dr. A. B. Isham, of Cincinnati, Ohio, gives the following account of an unusually small child, which came under observation in his own practice. A lady who had last menstruated 17th March, 1873, was prematurely confined, on 26th November, of a male child fifteen inches long, and two pounds in weight. On 2nd January, 1874, the child weighed four pounds, and was thriving. A second case is mentioned, in which, however, the weight and measurement were not taken.

In the Medical Times for 5th August, 1848, there is a notice extracted from the "Annales de Thérapeutique" of a female infant that was born in the sixth month, and lived for one day. Its weight was two pounds, and length fourteen inches. There was no morbid appearance to explain the cause of death.+

Dr. John Cochrane, of Edinburgh, attended a woman of a male child about the end of the fifth month of gestation. The child weighed two pounds eight ounces, and measured fourteen inches; he appeared at first likely to thrive, but died on the sixth day. ‡

^{* &}quot;Cases of Premature Delivery at the Eighth Month; Extremely Small Children, &c.," Amer. Journ. Med. Sciences, April 1874, p. 368.

† This is probably the same case as the one quoted in the Medical Times, N.S., vol. i., Sept. 7, 1850, p. 249, from The Gazette Méd. de Strasbourg, March, 1848; the details as to weight, length, &c., exactly correspond.

‡ Lond. and Edin. Monthly Journ. of Med. Science, March 1842, p. 260.

M. Dubois records the case of a woman* who suffered at the commencement of her pregnancy from intolerable pain in the stomach, which was unrelieved by treatment. Fearful of taking a meal, she restricted her diet to the utmost possible degree up to the time of her delivery, which took place when the pregnancy had advanced to eight and a half months. The child was lively and able to take the breast, although it only weighed fifteen hundred grammes.

Dr. Holst contributed to the *Norsk Magazin*† an account of a woman, aged thirty, who had previously borne eight children, being prematurely delivered of a living girl before or during the twenty-fifth week of pregnancy, in consequence of a fright during a thunderstorm. The catamenia had appeared for the last time in the middle of February, and the fœtal movements had first been felt on 23rd June. Delivery occurred on 2nd August. The child weighed a pound and a half, and was only thirteen inches long. It could not suck, but was slowly fed with cow's milk, water, and thin gruel. Its strength soon diminished, and it died in sixty-six and a half hours.

At a meeting of the Obstetrical Society of London, held April 1st, 1874, there was exhibited for Dr. George F. B. Willing, of Great Wakering, a fœtus of five months and ten days, dating from the last catamenial period. The mother had fallen down a week before its birth took place. It cried as loudly as a full-grown infant, and lived for forty-four hours, being fed with gruel by a spoon. The weight of the child was one pound and a quarter, and length eleven inches; it passed meconium, but no urine, and could never be made warm.

On 27th Nov. 1847, an inspector of police brought to Dr. John Davies, of Hertford,‡ the body of a small fœtus which had been found buried in a garden. It was thirteen inches long from crown to sole, and weighed one pound and three-quarters. The testicles had not descended. It was ascertained that it had been been buried a fortnight. There

^{*} Journ de Méd. et de Chirurg. prat. 2me Série. Tome xxvi. Paris 1855, p. 113. † Medical Gazette, vol. xxxii., 1843, p. 623; from Schmidt's Jahrbücher. ‡ Medical Gazette, vol. xl. London; 1847, p. 1022.

was slight peeling of the cuticle from some parts of the arms. At the inquest evidence was given that the child was born alive, and continued to move its limbs for at least ten minutes; it uttered no cry. On examining the lungs Dr. Davies found them "quite firm, like liver; they sank in water both wholly and in parts." The upper lobe of the left lung was lighter in colour than any other part; it sank, however, like the rest when put in water.

Sir Everard Home relates from hearsay that a woman in the fourth month of pregnancy was frightened by a monkey while travelling with the baggage of the Duke of Wellington's army. She went to her full term, and gave birth to a living child one pound in weight and between seven and eight inches in length. The child lived to the age of nine years, and was then twenty-two inches long.*

Taylor mentions a case that was communicated to him by Mr. Carter, of Richmond, + as having occurred in his practice in November, 1865. A woman gave birth to a living fœtus when she had not yet passed the fifth month of pregnancy. Mr. Carter was satisfied that his information on this point was accurate. The child cried feebly as soon as it was born, and during the half-hour that it lived unsevered from its mother it made repeated efforts at respiration. The body was a foot in length, and weighed twenty and a half ounces. It appeared to be perfectly formed.

The following case occurred to Mr. Smythe, of Castle Douglas.† A woman in her second pregnancy and in the 147th day of gestation had severe flooding, and was delivered on the following night of a small but well-formed fœtus, which after resuscitation cried strongly, swallowed some nourishment, and lived for twelve hours and a half. It weighed less than two pounds, and measured exactly twelve inches.

^{*} Medical Times and Gazette, vol. i. 1874, p. 201. † "Principles and Practice of Medical Jurisprudence," 2nd edit. Lond. 1873. Vol. ii. p. 250. # Medico-Chirurgical Review. Lond. July, 1844, p. 266.

A CASE OF SEROUS PERIMETRITIS.

By STACEY S. BURN,

Midwifery Assistant St. Bartholomew's Hospital.

THIS case is an example of a rather rare disease, which is described by Dr. Matthews Duncan in his book on "Perimetritis and Parametritis," and of which he there says that he has only seen two or three cases. In no case has he been able to obtain post-mortem evidence of the exact seat of the disease. It is most probable, however, that the serum is collected in a sort of cyst, formed by the intestines matted together, and the pouch of peritoneum surrounding the uterus posteriorly; and Dr. Duncan suggests the analogy between these cases and some cases of pleurisy and pericarditis.

Mrs. B., married four years, had one child four months ago; has had no miscarriages. About a month after her confinement she began to complain of pain in the hypogastrium, and shortly afterwards of pain and difficulty in micturition, and constipation. The pain got worse, and on April 24th she was admitted into the hospital. Her bowels then had not been open for a week. They acted freely after a dose of castor oil. Morning temperature, 100°.8. Evening, 101°.6

April 25th.—Seen by Dr. Duncan, when the following note was made:—

Per hypogastrium.—The lower part of the abdomen is occupied by a hardness, somewhat tender, nearly of the shape and size of a four months' gravid uterus, but not of the same feeling. It is comparatively dull on percussion.

Per vaginam.—The pelvis is occupied by a globular elastic mass. The cervix uteri is with difficulty reached by pressing the finger between this mass and the pubes; the uterus lies above the pubes.

The probe passed into the uterus enters about the natural length; the uterus is found to be lying deflected to the right side, and its fundus about four inches above the right Poupart's ligament. The perinæum bulges; and the rectum at the anus is partially everted.

The tumour was opened by incision per vaginam in the mesial line, when about a pint of turbid, serous, non-purulent fluid escaped, and the hypogastric swelling disappeared.

26th.—A slight blood-stained discharge; temp. 99°.8.

27th.—The hole made by the knife still remains open. Discharge slightly stained with blood; temp. 98°.

28th.—Has no pain, and her temperature continues normal. The discharge continued for about a week, and then ceased.

May 4th.—There remains only behind the uterus some induration, from adhesions in Douglas's pouch.

9th.—Says she feels quite well; appetite good, sleeps well. No discharge.

10th.—Dismissed.

Abstracts of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, May 1st, 1878.

Dr. Aveling, Vice-President, in the Chair.

Effusion of Blood into the Peritoneal Cavity.

Dr. Robert Barnes showed specimens from two cases to illustrate two forms of blood effusions in the pelvis-namely, hæmatocele, and diffused hæmorrhage. The first was from a patient, sixty years old, who had borne children. The last menstrual period had occurred eight weeks previously to her illness. On April 20th she was seized with sudden severe pains while riding in an omnibus, but afterwards walked a quarter of a mile. Next morning at 8.30 A.M. severe pain in the left groin was still continuing, with vomiting, and a feeling as of some foreign body being present. The pulse was 110. The cervix was then found closed, the uterus movable, and no hardness could be discovered. In the afternoon she suddenly became much worse, her face pale, and lips livid; pulse 140, respiration 40, temperature 96°; and shortly afterwards died. At the autopsy, the intestines were found covered with blood up to the umbilicus. Four pounds of clot were removed, and about as much left behind. No ovum could be found, but the seat of hæmorrhage was the sac of a Fallopian gestation on the left side, situated not far from the angle of the uterus. There was a well-marked corpus luteum on the same side, and a good decidua in the uterus. No obstruction in the Fallopian tube on the affected side was detected.

The second case was that of a patient in a general ward in St. George's Hospital. Dr. Barnes being requested to see her, found the uterus enlarged, retroverted, imprisoned under the promontory of the sacrum, but movable. It was replaced by the finger, and a Hodge's pessary put in. A few days after, the patient became very much worse, and the pessary was expelled by a muscular effort. This was followed by great distress and collapse, and the patient died apparently from shock. At the autopsy, the uterus was found enlarged and retroflexed. Behind it was a cavity in the situation of Douglas's pouch, containing a large quantity of blood, partly old clot, partly recent effusion, the former lining the cavity with a firm fibrinous layer. Blood was also diffused in the peritoneal cavity. The Fallopian tubes were widened in their middle third, and near the end of the left tube was a cavity, as large as a Tangerine orange, and full of blood. This had been the source of hæmorrhage. The case was an instance of enlargement of the uterus from venous obstruction, also dilatation of the tubes from impeded outflow, and hæmatocele from reflux of menstrual blood. In a case which occurred some time ago at the London Hospital, perchloride of iron had been injected into the uterus in a case of retroflexion. Reflux along the Fallopian tubes into the peritoneal cavity took place, in consequence of spasmodic uterine contraction, and death followed. The same thing occurred with blood. Hence one great reason for reducing retroflexions of the uterus.

Dr. John Williams said that the second case illustrated another point—namely, that in retroflexion the uterus and tubes might be grasped at each side by the utero-sacral ligaments, so that the return of blood was prevented, and the uterine enlargement increased. This was one main reason why enlargement was greater in retroflexion than

in anteflexion.

Dr. Haves related the case of a patient who lately came to King's College Hospital. She was said to have had a miscarriage two months previously. At her admission, her pulse was 140—150, temperature 102°; abdomen distended and tender. She was almost collapsed, but able to speak, and give an account of herself. She had thought herself six or eight weeks pregnant, when she miscarried. The uterus was found to be fixed, and there was a large mass posterior to it. She died the same night. At the autopsy, an early stage of peritonitis was found, no lymph, but general vascularity, with an effusion of a large quantity of sanguineous fluid. A large clot of blood covered the top of the uterus, and Douglas's pouch was filled by a large round clot, encircled by a dense layer of membrane. In the midst of the clot was found the sac of an extra-uterine fœtation

connected with the left Fallopian tube. On the same side was a corpus luteum partially torn. Here was a case of extra-uterine feetation not rapidly fatal after rupture, but giving rise to a hæmatocele of considerable duration. The uterus was enlarged to

the size of six weeks pregnancy, and contained a decidua.

Dr. WILTSHIRE asked whether in Dr. Barnes's case the blood had spread up along the spinal column. He thought that blood effused into the peritoneal cavity comported itself like any other fluid, occupying the lowest part, in the supine position. As to the question of treatment—during the discussion on Mr. Jessop's case, opinions had been expressed that it was the duty of the attendant, on the rupture of the sac, to operate, if possible, and ligature and remove the sac. If let alone, the patient died a miserable death. The second case was a very rare one, and was interesting as a postmortem evidence of retroflexion, the very existence of which had been almost denied by some pathologists, on the ground of its being so rarely found at an autopsy. Probably some adhesions had been ruptured in replacing the uterus. He thought the evidence was that hæmatocele was much more frequently extra peritoneal than intra-peritoneal.

Dr. Heywood Smith related a case which he had met with eight years ago, in which a pelvic hæmatocele was suddenly formed, and the patient for some days was in a critical state. Five days afterwards a decidua was passed, and it was discovered that an opportunity of impregnation had occurred. It was debated for a long time whether to puncture the hæmatocele, but it was decided not to do so, and the patient eventually recovered. She was left with a large mass behind the uterus, but at the end of three or four years this had become completely absorbed, and the uterus was quite

movable.

The Uterine Mucous Membrane in Menstruation.

Dr. Cory showed microscopical sections of a uterus, taken from a woman who had died from embolism of the pulmonary artery on the first day of menstruation. Its appearance confirmed the views of John Williams. The mucous membrane was disintegrated in shreds at the lower part of the uterus only, not at the upper.

Dr. WILTSHIRE remarked that there was considerable evidence that, during menstruation, the blood was hyperinotic, and this might

account for the embolism.

Fracture of the Fatal Skull.

Dr. Poole showed the head, lungs, and heart of a child, whose cranium had been extensively fractured. The mother was a domestic servant, a primipara, and had concealed her pregnancy. She stated that labour was terminated while she was lying in bed on her right

side, with her back close to the edge, and that the child fell on to the floor, the funis breaking. The placenta came away half an hour after. She then rose, found the child dead, concealed it at the bottom of her box, got up and went about her work, having thrown the placenta into the ashpit. Dr. Poole was called in six hours after. He found that the child's lungs were partially filled, so that they crepitated, and floated feeely in water. There was no caput succidaneum. On incising the scalp, dark blood was found under it, and a tenacious clot covered the bones. There was also fluid blood covering the dura mater. There were three fractures in the left frontal bone, three in the left parietal, and one in the right parietal. The fractures radiated from the coronal and sagittal sutures. The pericranium was intact. The immediate cause of death was clearly compression of the brain from extravasation of blood. The bed was twenty-six inches from the floor, and the question was whether a fall from this height would account for the seven fractures. He had seen two or three cases of birth in the erect position, in which the funis broke close to the umbilicus; no fracture took place, and the child did not suffer. In these instances the distance of fall was probably less. The patient was awaiting the result of an adjourned inquest, and would probably get the benefit of the doubt.

At the suggestion of the Chairman it was resolved that, the case

being still sub judice, it should not be discussed by the Society.

A Case of Cæsarian Section.

Dr. Braxton Hicks communicated the case of a patient who was admitted into Guy's Hospital in the eighth month of her eleventh pregnancy. Her attendant had detected the presence of malignant disease, seriously obstructing the pelvis. Her last confinement was two years before, and even before that date she had suffered from a discharge of pus and blood from the rectum, which had continued ever since. The rectum was surrounded with malignant growth, and the recto-vaginal septum was consolidated into a dense mass, nearly filling the vagina and almost preventing the finger from reaching the cervix. It extended nearly to the os, but did not implicate it, and it was ulcerated on the vaginal side. It was decided that delivery per vias naturales was impossible, and that Cæsarian section should be performed ten or twelve days before full term. Feverishness, however, set in on February 11th and 12th, and was followed in the afternoon of the latter day by labour pains. The operation was therefore undertaken at eight P.M., a subcutaneous injection of ergot having been previously given. The placenta was found to be situated in front towards the upper part, but no great hæmorrhage occurred. It had been impossible to draw off the liquor amnii previously on account of the obstruction, but on the membranes being ruptured at the lower margin of the incision it was expelled by the uterus. After removal of the placenta, the uterine wound being held forward by an assistant, the fingers were passed down into the os, to clear it. Another assistant then passed from the vagina a large rubber tube up into the uterus. The uterine wound became much everted, with a tendency to complete inversion, but was brought together by grasping the organ. Eight interrupted sutures were then passed rather superficially through the peritoneal coat, and kept it together. The drainage tube was left in the vagina and os uteri, so as to allow of irrigation. At 10.30 the patient was comfortable, but at midnight vomiting of dark fluid commenced, continued for twelve hours, and caused severe prostration. She sank about twenty-four hours after the operation. At the autopsy the uterine wound was found gaping, all the stitches having cut through. There was a general peritonitic blush, and a little grumous fluid in the peritoneal cavity. The author remarked that the irritative fever, which had set in before the operation, greatly diminished the patient's chance; and this was an important point to take into account in deferring the operation till a late period of pregnancy. The severe vomiting had doubtless much to do with the tearing out of the stitches.

Case of Pregnancy, complicated by Malignant Growths in the Vagina and Rectum.

By Dr. POTTER.

The patient, who was married, and the mother of three children, was admitted into the Westminster Hospital on January 15th, 1876. She was five months pregnant, and during the same period had suffered from aching pain in the back, rectal tenesmus, and muco-purulent discharge from the bowels. Motions were frequent and dysenteric. On vaginal examination a hard nodular mass was found occupying the posterior and upper portion of the canal, reaching within two inches of the vulva. The uterus was movable, and not implicated. Per rectum a large fungating mass was felt, and the bowel was almost impervious, not admitting even a number twelve cathether. General health was fairly good. She remained in the same state till March 4th, the motions being frequent, but containing little fæcal matter. At this time the pain became more severe, and slight but steady vaginal hæmorrhage commenced, and increased until it put the patient's life in danger. An elastic catheter was therefore passed into the uterus on the 11th, the patient being about seven and a half months pregnant. Labour came on in about eight hours, and the vertex and foot presented. Delivery was accomplished by bringing down the feet, and the head was ultimately brought through by forceps. The child was living, and the mother recovered well from the effects of parturition, but the other symptoms remained unaltered. As she was anxious for relief, colotomy was performed by Mr. Macnamara, and she died from peritonitis on the seventh day after the operation. An autopsy was not permitted.

Dr. Godson thought that Dr. Hicks's case was rather in favour of Dr. Edmund's plan of putting no sutures in the uterus. He asked Dr. Hicks what his reasons were for using sutures, and whether he would do so in another case? Was the child still living in Dr. Potter's case?

Dr. Heywood Smith asked Dr. Hicks why he did not put the sutures through a greater thickness of the uterine wall? How soon

after delivery was colotomy performed in Dr. Potter's case?

Dr. Murray asked Dr. Potter whether the mass which obstructed delivery in his case was hard or soft, and whether any rupture in it was found to have taken place after delivery? It was gratifying to find that a child might be delivered naturally in such cases, as it had been said here and elsewhere that Cæsarian section was almost inevitable.

Dr. Braxton Hicks said that he had formerly recommended that in Cæsarian section the edges of the uterus should be united by sutures to the parietes, so that any effusion should be forced through the external wound. In the present case the uterine wall was very thick, and gaped so extremely, that he thought it better to use numerous superficial sutures instead of a few deep ones, and so avoid the risk of wounding sinuses. If a case did very well, sutures were not required, and, in the opposite case, they made little difference. Mr. Spencer Wells now recommended the use of numerous silk sutures, and he had been somewhat guided by his opinion. He thought that the septicæmic fever set up had been due to the explorations made, so much difficulty having been found in reaching the os. There would have been no possibility of getting the child through without extreme mutilation, and great sloughing of soft parts would have followed. The child was doing very well, and had been adopted.

Dr. Potter said that the child in his case was alive at the end of three months, but, beyond that, he had no information. Colotomy was performed two or three weeks after delivery. Not much difference was detected in the growth after delivery. It was not large enough to cause serious difficulty in the parturition. He had been present at Dr. Hicks's operation, and thought that no one who had seen the gaping state of the uterus would have hesitated to put in

sutures.

The Pathology of Membranous Dysmenorrhæa.

By Dr. CORY.

The author related the case of a patient who menstruated first at the age of fifteen, but never passed any membrane till after her marriage, at the age of thirty. Within two years of her marriage she had three miscarriages, all between the second and third months. In April, 1876, she came as an out-patient at St. Thomas's Hospital with subinvolution and retroversion. From this time she almost invariably at the menstrual periods passed membranes which had all the charac-

ters of the uterine mucous membrane, forming perfect casts of the uterus. The membrane was usually passed on the second day of the period, up to which time she had acute pain. The period continued for two or three days after its expulsion, and was always profuse. On two occasions the membrane did not appear, and on both occasions she had previously been away from her husband. The intervals between the commencement of the periods varied between twenty-five and thirty-one days. The longer the interval, the larger was the membrane passed. She was admitted while menstruating into the hospital, and the period ceased on May 4th, 1877. On the 23rd it recurred, but without any membrane. Iodine was applied to the cavity of the uterus. She reappeared in February, 1878, and stated that she had been living apart from her husband for nine months, and during that time had menstruated regularly without any membrane. He thought the case favoured the view that menstruation was due to the abortion of an unimpregnated ovum, together with its nidus, the mucous membrane of the uterus. The order of events in a normal menstrual cycle would then be—(1) The arrival of an unimpregnated ovum in the uterus at, or soon after, a menstrual period. (2) The development of this ovum and its nidus, the mucous membrane, up to a certain point. (3) The arrival to maturity of the next Graafian follicle, accompanied towards its completion by ovarian irritation, which being reflected to the uterus causes uterine contraction. The abortion of the old ovum and its nidus, accompanied by a discharge of blood. (5) The rupture of the Graafian follicle and the passage of the new ovum along the Fallopian tube. A microscopic section of the membrane passed in the case reported was shown.

Dr. Godson showed a specimen of a decidual membrane, with a very small ovum upon it, which had been passed when the menstrual period was only a few days over time. This might easily have been

mistaken for a dysmenorrhœal membrane.

Dr. Galabin said that the case afforded some direct evidence as to the period of the menstrual cycle at which the Graafian follicle ruptured, and conception was likely to occur. It was clear from the history of Dr. Cory's case that, in many successive months, the follicle ruptured and impregnation took place soon after the end of a menstrual period, since there would have been no time for the development of the decidua, if the ovum had belonged to the menstrual period at which the membrane was expelled. The view had lately rather gained ground, that the follicle commonly ruptured before the onset of the period, the commencement of which showed that the impregnation of that ovum had failed. But there was also anatomical evidence of a follicle being found apparently on the point of rupture during, or just after a period, and further evidence was wanted to show which was the most usual occurrence.

Dr. John Williams thought there could be no doubt that the membranes in Dr. Cory's case were decidua belonging to an impregnated ovum, though no ovum was discovered. He should object to

the case being called one of membranous dysmenorrhæa. Numerous cases of different nature had been classed under that term, and even a piece of tough mucus had been produced as a dysmenorrhœal membrane. The term should only be used when the lining membrane of the uterus was expelled without any impregnated ovum, and, in the great majority of cases, the distinction could be made. He did not agree with the author as to the sequence of events in normal menstruation. Reichert and Blumenthal had adduced evidence that impregnation usually occurred just before a period was due. Reichert had published eighteen cases, tending to show that ova were only discharged shortly before the period. But there were also authentic cases of the discharge of ova during or just after the period. He thought Coste had misinterpreted one of his cases. A girl drowned herself fifteen days after the cessation of menstruation, and a follicle was found considerably enlarged. Coste regarded this as a follicle which had failed to rupture at the last period, but he thought it was really the follicle preparing to rupture previous to the next period. But the strongest evidence in favour of his view was derived from the history of the Jews. According to the Mosaic law intercourse was forbidden during each period, which was reckoned as lasting five days, and for an additional space of eight days following the period, during which the woman was regarded as unclean. There were thus in all thirteen days of uncleanness, so that if the conditions of the Mosaic law were rigidly observed, impregnation could not take place till the ninth or tenth day after the cessation of a period. He had made many inquiries of Jewesses on this point, and he found that those who were strict in their observances adhered to the thirteen days of uncleanness, while others abstained from intercourse for a week in all. He thought these facts were strongly in favour of the view that impregnation took place before a period. He admitted, however, that in some women the ovum might be discharged subsequently to menstruation. He would ask Dr. Cory what evidence he had to show that an unimpregnated ovum was capable of development, and what was the nature of that development? He mentioned the case of a lady, in which a single coitus took place when a period was just due, twenty-nine or thirty days from the commencement of the last period. Delivery took place 242 days afterwards. child appeared to be full term, and weighed $7\frac{3}{4}$ pounds.

The CHAIRMAN said he was not inclined to accept the view put forward in the paper, that repeated abortion occurred in Dr. Cory's case. He thought that hypernidation might be produced by the hyperæmia of the uterus set up by marital life. He had come to think that ovulation was a very irregular function, and might be determined by the hyperæmia of menstruation, or by that of coitus.

Dr. Brunton asked if the weight of the child in the case mentioned by Dr. Williams was a proof that the child had reached full term?

D. WILLIAMS said that it was evidence, although not proof. I

conception generally took place just before a period, about twenty days ought to be deducted from the 275 days commonly reckoned, and he thought the period of gestation varied in different women. Jewesses were generally more accurate in their calculations.

Dr. POTTER dissented from the assertion that Jewesses were accurate in their calculations as to pregnancy. In some cases he had

found them as much as a month out of their reckoning.

Dr. Corv observed, in reply, that until we had more exact knowledge as to the time taken by the ovum in its passage along the Fallopian tube, it was impossible to come to any definite decision on the period of rupture of the Graafian follicle. With regard to the facts which had been adduced about Jewesses, he might remark that spermatozoa were known to live some time, and impregnation might thus take place after a menstrual period, though connexion had occurred before it. He had no direct evidence that unimpregnated ova could develop in the uterus.

Note on the Treatment of Chronic Inversion of the Uterus.

By Mr. LAWSON TAIT.

The author had been surprised to find recorded in the last volume of the Transactions three cases of amputation of the uterus for inversion. He maintained that elastic pressure would effect reduction in the great majority, perhaps in all. The greatest improvement introduced had been that of placing an elastic ring round the uterus, to prevent its being displaced laterally, and economising the force necessary. Without this the walls of the vagina might suffer, and the elastic ball was occasionally extruded, and the treatment rendered futile. He had talked to Professor White, of Buffalo, as to the instrument devised by him. He thought the principle of his treatment right, but that there was danger from the amount of force used in his mode of applying it. It was apparent to him that no plan could so efficiently diminish the size of the inverted uterus as pressure upon it by a conical cup; and it was equally evident that the best way of dilating the contracted and inverted cervix was to make it do the work, as it were, by pressing upon itself. He therefore, abandoning the pelvic curve of the older instruments as useless, had boxwood cups made of three different sizes, each with a straight stem of about six inches long, with notches at the end for strings. The case to which the treatment was applied was that of a young woman, aged twenty, who had been confined by a midwife ten weeks previously. The uterus was completely inverted, and thorough involution had taken place, so that the inversion had passed into the chronic stage. After she had been in hospital for six weeks, the large rigid cup was introduced under ether, and a doubled thread of elastic was applied to the stem, and fastened to the waist in such a way as to give a strain, probably not exceeding a pound at the utmost. The next morning the uterus was found reinverted, and inclosing the cup. On the removal of the latter it was found that the reinversion was not complete, and the smallest-sized cup was therefore introduced, with the effect of securing perfect reduction. The simplicity of the treatment in this case, he thought, entitled him to say that in future very few cases should be submitted to the extreme measure of amputation.

Dr. AVELING remarked that the case which had been read would serve to encourage us in the treatment of a very difficult condition, which till recently had been thought only relievable by amputation. At the same time he might observe that the use of instruments with straight stems was not a novelty, as they had been first advocated by. Madame Boivin, whilst Dr. Braxton Hicks had employed an instrument very similar to the smaller end of a stethoscope. Since then the instruments which had been in use had mostly been made with a pelvic curve; but he felt that they were unsatisfactory, and he was now about to treat a case of fifteen months' duration by means of an instrument made with both a pelvic and a perineal curve. The uterus was so plastic in its nature that he thought that moderate pressure continuously applied would prove successful in the most obstinate cases.

Dr. Godson, in referring to the fact that Mr. Lawson Tait had expressed surprise in his paper that three cases of amputation of the uterus for inversion were recorded in the last volume of "Obstetrical Transactions," said that these cases were taken from a very large number which had been treated in St. Bartholomew's Hospital, and were brought forward not for the purpose of recommending the operation, but to show that the uterus might be amputated without any great danger to the patient's life. He thought that there were two different kinds of cases of inversion of the uterus. Some might be easily reduced by pressure, as that treated by Mr. Tait, but others seemed to defy all attempts at restoration. The three cases recorded in which the uterus was amputated were of long standing, and the patients were so reduced by hæmorrhage that their lives were in jeopardy. The womb could not be got back, even under analogous treatment to that recommended by Mr. Tait, and the patients were bleeding to death. Who could doubt the wisdom of the course pursued? At all events it was justified in the results. Mr. Tait's case did not fall within this category, and he did not even mention those cases in which the condition was one of absolute danger to the patient's life.

Dr. J. Braithwaite, of Leeds, would call attention to the fact that the difficulty of returning an inverted uterus was not always proportionate to the length of time which had elapsed since the inversion occurred. He had recently had a case under his care in which the condition had only lasted five or six days, and yet after trying to reduce it with his fingers for some time, and using a considerable amount of force, he was obliged to desist, and he then sent for an ordinary stem and cup pessary, with abdominal belt and india-rubber

perineal band, and attached to it a common soft circular pessary by means of shellac. Pressure was made by this instrument for four days, at the end of which time the uterus was half returned, and he had no difficulty in completing reduction. The cervix was then found to be expanded, so as to be scarcely distinguishable from the upper part of the vagina, while the uterus above had closely contracted. He believed that there were several modes in which an inverted uterus might be returned. Either the part which had been inverted first might be returned first, or returned last, the fundus being first dinted-in by pressure from below. In a case of recent inversion which he had seen and returned, the posterior part of the cervix went back before the fundus, and the anterior part last of all, so that a section of the uterus, as it went back, was S-shaped. A fourth mode of reduction was to dint-in the cornu by pressure, as in a case recorded by Dr. Marion Sims.

Dr. Haves thought that in recording cases of inversion of the uterus it was very important to mention the degree of involution which had taken place, as the difficulty of reduction was chiefly dependent upon this and only indirectly upon the duration of the displacement. In a case which he had treated three months after delivery, the uterus was so perfectly involuted that he could hardly believe that it was a case of inversion and not one of polypus. When reduction was easy it might be due to involution having remained incomplete.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, 9th Fanuary, 1878.

Dr. DAVID WILSON, President, in the Chair.

Professor Simpson exhibited a preparation of hydatiginous degeneration of the chorion. The patient, a young unmarried woman, had menstruated up to last October, and became pregnant thereafter. She speedily began to suffer great losses of blood. On admission lately to hospital, the hydatid mass was spontaneously expelled a few hours after. The mass presented the usual appearances. Some portions of the decidua were attached. Patient was progressing favourably towards recovery.

Dr. PEEL RITCHIE showed the placenta of a child born one week before full term. It weighed half a pound, and the child, a male, five pounds; the cord was twenty-one inches. The mother in the early months had suffered greatly from vomiting, so severely that the induction of premature labour was contemplated. Up to the time of delivery, the patient had suffered from persistent loss of memory, although in other respects her general health was good.

On Retention of the Urine in the Female.

By J. HALLIDAY CROOM, M.B., M.R.C.P.E., Physician Royal Maternity Hospital, Lecturer on Midwifery, School of Medicine, Edin.

Although vesical troubles of various kinds are very common in the female, yet a complete retention of urine requiring the use of the catheter is, apart from labour, not of very frequent occurrence. Retention is met with oftener in the female than the male. Its causation in the sexes accounts for this. In the male the causes leading to the condition are comparatively limited: in the female there is a much wider range. In the male retention of urine points to some morbid condition in the urethra or bladder: in the female it indicates usually some disease, injury, or displacement of neighbouring organs; while stricture of the membranous or spongy portion of the urethra, enlargement of the prostate, presence of a calculus, or some disease of the nervous system, form by far the most prominent group of causes obstructing the flow of urine in the male. It is a great clinical fact, that retention is produced in the female by causes altogether external to the bladder. Although, for the relief of the urgent symptoms, passing a catheter is sufficient, yet it is important clinically to remember that retention is but a symptom, and points to some condition within the pelvis, for the diagnosis of which a vaginal examination is necessary. In inquiring into the causes leading to retention of urine in the female, it is convenient to look at two cases illustrating complete retention from a well-recognised cause.

CASE I.—Retroversion of Gravid Uterus—Retention of Urine.

Mrs. B., aged thirty-five, the mother of five children, while alighting from an omnibus, slipped, and fell heavily on the ground. Beyond the bruise she felt no great discomfort at the time. On reaching home, a distance of five minutes' walk, she began to complain of aching in the back and loins, and general pelvic distress. Before going to bed, six hours after the accident, she attempted to pass water, but succeeded in voiding only a few drops. night she suffered much from tenesmus, and repeated futile attempts at micturition. Next morning she was considerably worse, pain in belly, back, and thighs, pressure, tenesmus, sickness, thirst, and vomiting. In the evening of the same day she was seen by one of my dispensary pupils, who, thinking she had inflammation of the bowels, ordered her turpentine stupes and a large opiate. At IO AM. the following day I saw her, and found her pulse high, skin hot and dry, lower portion of the abdomen tense, tender and dull on percussion from pubes to umbilicus. She had not passed any urine for nearly fifty hours. She said she believed herself to be three months pregnant. On examination per vaginam, I found the enlarged fundus uteri occupying the hollow of the sacrum, and the cervix uteri, turned upwards and forwards, could be reached with difficulty. It was lying behind the pubes, pressing firmly against the urethra. A gum-elastic catheter was passed, not without some little trouble, owing to the irritable condition of the patient, and the orifice of the urethra being dragged considerably backwards and upwards by the ascending cervix. Two quarts of highly coloured, very ammoniacal, urine were drawn off. By very gentle pressure on the fundus with the two fingers per vaginam, the dislocation was easily reduced; indeed, the fundus slipped upwards and the cervix downwards into its natural position in the vagina almost spontaneously. The urine was again drawn off in the evening. Next day I introduced a Hodge pessary, telling the patient to retain it for a month. Patient had no further trouble, and was delivered at term.

The case was obviously one of retroversion of the gravid uterus, and accompanying retention of urine resulting suddenly from a fall.

Case II.—Retroversion of Gravid Uterus—Retention of Urine— Abortion.

Margaret R., aged thirty-five, consulted me in August of last year about a constant pain in her back and occasional difficulty in passing her water. In other respects she was in good health. Her menstruation, which had been regular previously, had been suppressed for a month. She had been delivered of a child ten years before at full time. On examination per vaginam I found the vagina capacious, the rectum packed with hardened fæces, and the cervix, which was that of a multiparous woman, directed forwards. I felt the fundus uteri directed backwards and enlarged. Owing to the loaded condition of the rectum the examination was somewhat unsatisfactory. I therefore asked the patient to return the following day, after having taken a purgative dose of medicine. She did not, however, return to see me, and I heard nothing of her until I was asked to see her in September, a month later. I found her in bed, moaning heavily, with a high pulse, complaining of bearing down, tenesmus, and much pain in the back. She had been unable to pass water for two days. She said she had suffered from slight attacks of retention since last I saw her, but these had always passed off until now, when her suffering had become so great that she was obliged to send for me. On examination I found a distinct tumour, reaching from pubes to umbilicus, which, from its tenseness, dulness on percussion, tenderness, and fluctuation, was evidently the bladder. The vagina was blocked up by a round, regular, doughy tumour, in front of which, behind the pubes, I could barely feel the edge of the os uteri. the position of the os and the character of the vaginal tumour, as well as the history of the case, the diagnosis arrived at was gravid retroversion, and consequent retention of urine. The patient admitted the possibility of pregnancy. A large quantity of dark-coloured urine was drawn off with a gum-elastic male catheter. On making a second examination the os could be more easily reached. I tried at

the same time to reduce the dislocation, but failed. In the evening of the same day Dr. Andrew was kind enough to see the patient with me, and while he kept her fully under the influence of chloroform I succeeded in reposition in the ordinary way. A Hodge pessary was introduced next morning A fortnight later the patient aborted.

The two cases just recorded are, I believe, typical examples of the two forms of gravid retroversion. They both occurred at the end of the first trimestre of pregnancy, the usual time for the development of the characteristic symptoms. The subjects, as is generally the case, were both multiparous women. In both the urgent symptom was retention of urine. They differed, however, very notably in the manner in which the displacement was produced, for, while the first was sudden and accidental in its onset, the second was slow and gradual. In the first the sudden fall from the omnibus was evidently the determining cause of the dislocation. The patient, on attempting to alight while the vehicle was still in motion, fell heavily on the ground, and in the roomy pelvis of a multiparous woman the result of the shock might be such as to force the fundus uteri, enlarged and overweighted by an ovum, under the promontory into the hollow of the sacrum. The cervix in consequence would rise upwards and forwards, and press on the urethra or neck of the bladder. In the second case the retroversion was gradual and progressive. fundus, having probably a backward inclination to begin with, sank deeper into the pelvis as the advancing pregnancy increased its weight and size, and with the gradual depression of the fundus there was, of course, a corresponding elevation of the cervix. The pathology of pregnancy presents few more interesting subjects than retroversion of the gravid uterus, and the cases just recorded suggest many interesting points worthy of consideration; but the present paper is concerned with but one symptom, and that unquestionably the most prominent-viz., retention of urine. What relation, then, does retroversion of the gravid uterus bear to the retention of urine? Is it cause or effect? That the one forms an important factor in the production of the other there can be no doubt. Upon this point there has been and still is considerable difference of opinion among obstetricians. For while Denman,* Merriman,† Paul Dubois,‡ Danyan, Cazeaux, and more recently Depaul regarded retention as a frequent cause of retroversion, other authors,—Hunter,** Moreau, †† Burns, †† Lohmier, §§ Spiegelberg, || Leishman, ¶¶ and

^{* &}quot;Introduction to Midwifery," 1805, p. 103.

† "A Dissertation on Retroversion of the Womb," 1810.

‡ Depaul, "Leçons de Clinique Obstetricale." § Ibid.

|| "Theoretical and Practical Midwifery," Amer. edit., p. 533.

¶ Depaul, "Leçons de Clinique Obstetricale."

** Medical Observations and Inquiries, vol. v. p. 389, 1776.

†† Depaul, op. cit. ‡‡ "Principles of Midwifery, p. 282, 1837.

§§ Schroeder's "Manual of Midwifery," p. 122.

||| "Lehrbuch der Geburtshulfe," p. 283.

¶¶ "System of Midwifery," p. 266.

Playfair*—attribute the retention to the retroversion. Those who hold the first of these theories suggest as an explanation of the mechanism of the retention that the bladder, becoming distended, forms a point projecting into the interior of the pelvis, which gradually as it enlarges, presses the uterus backwards. The degree of retroversion will be therefore in direct proportion to the distention of the bladder. On the other hand, those observers who find in the retroversion the cause of the retention explain its occurrence in one of two ways, either that the uterus became suddenly retroverted as a result of a fail or injury,—the retroversion of Huntert and Denman,‡—or else adhere to the explanation of Tyler Smith.§

To Dr. Tyler Smith belongs the credit of having first pointed out that retroversion of the gravid uterus is simply pregnancy taking place in a previously displaced organ. In either case, the retention is caused by the direct pressure of the cervix on the urethra, increased by the tenesmus and downward pressure of the intestines. If the cases just recorded prove anything, they prove that the retroverted uterus was the direct cause of the retention. In the first case, the patient had no difficulty in passing water previous to the fall which caused the retroversion. It was only after the dislocation had lasted some hours that symptoms of retention set in. It is matter for conjecture whether the bladder was full at the time of the fall or not. If it were, it would no doubt increase the backward inclination of the uterus in early pregnancy, and a dislocation from a fall more easy. It is, however, a fact that until the occurrence of the fall, which either aggravated or caused the retroversion, there were neither difficulty in passing nor retention of urine. In the production of this sudden force, retroversion plays, if any, a very secondary rôle. In regard to the gradual form of retroversion, of which Case II. is a good example, the uterus, when I examined it in the early weeks of pregnancy, was distinctly retroverted. The strong presumption is that the uterus was retroverted before pregnancy, and that the enlarging ovum and uterus, in the early weeks of pregnancy, caused difficulty in micturition. As the uterus enlarged towards the end of the third month, this difficulty became aggravated into complete retention. From the frequency with which retroversion of the unimpregnated uterus is met with in practice, as a reference to Nonat's | Table amply shows, it might be urged that gravid retroversion would be much more common. It is a fact, however, that this displacement acts as a barrier to impregnation, and sterility is therefore common among women who thus suffer. It thus appears probable that when by accident conception does take place in a retroverted uterus, the dislocation is aggravated, and only recognised when the increasing bulk of the imprisoned organ causes retention of urine. No doubt the fundus uteri enjoys a considerable

^{* &}quot;Science and Practice of Midwifery," p. 235.
† Op. cit. § "Manual of Obstetrics, 1858, p. 127.

| "Mal. de l'utérus," p. 416.

range of motion in the direction from pubes to sacrum, influenced to a certain extent by the alternate filling and emptying of the bladder. It would seem natural that so long as the bladder kept distending antero-posteriorly, there would, of course, be a corresponding backward displacement of the uterus. It must, however, be remembered that when the bladder distends beyond a certain limit, its vertical diameter becomes increased beyond and at the expense of the trans-The result is that the utero-vesical folds are shortened and drawn up, and the anterior wall of the uterus is closely applied to the posterior wall of the bladder. In Scanzoni's experiments on the dead subject, quoted in Leishman's "System of Midwifery," p. 267, it was found, if the round ligaments and utero-vesical duplicature were cut, and the bladder filled, it was easy to induce an amount of retroversion corresponding to the quantity of fluid in the bladder. When the ligaments and folds just alluded to were left untouched and the bladder distended, they were greatly put on the stretch, and consequently the attachment of uterus to bladder was much more firm than when the organ was empty.* Again, when distension of the bladder takes place after labour, the position of the uterus is considerably interfered with. As the bladder rises into the abdomen, it carries with it the uterus, so that the fundus uteri can be felt above the umbilicus. When the catheter is introduced and the urine drawn off, the uterus descends to its normal post-partum position in the pelvis. Indeed, it is the rule that when the uterus is found high up, the bladder should be examined. If the uterus be retroverted before conception, then the simple increasing size of the organ is sufficient to cause the retention of urine. If, however, a uterus with only a slight inclination backward becomes completely retroverted during pregnancy, it is more likely to be brought about when the bladder is empty, because in that case the ligaments are relaxed and the downward pressure of the intestine, especially when loaded, acts with greater advantage on the enlarged uterus than when the bladder is full and the ligaments tight.

Acting much in the same way as a gravid retroversion, that is, by displacing the cervix against the urethra, and so mechanically interrupting the flow of urine, retention may be the result of retroversion

of the uterus from a fibroid tumour.

Mrs. R. was, late on Sunday, January, 1877, complaining of great pain in lower part of abdomen, inability to pass water, and strong tenesmus. During the day and previous night she had made many ineffectual attempts to pass water, but failed. Except a few drops, no urine had passed since the previous Friday night (forty-eight hours). On examining the abdomen, I found a tense, smooth, dull tumour, extending from the true pelvis slightly beyond the umbilicus. Per vaginam.—There was a hard, round, immovable mass filling up the vagina; beyond it, anteriorly, could be felt the posterior lip of the

^{*} Burns records experiments on the dead subject with same result.

cervix uteri, jammed firmly against the urethra. The introduction of the catheter relieved the patient of a large quantity of ammoniacal urine, and at the same time permitted a more careful examination of the condition of matters within the vagina. It is unnecessary for my present object to do more than mention, from her profuse menstruation, sterility, from the position, size, and consistence of the tumour, as well as the enlargement of the uterine cavity, there was little room for doubt as to the nature of the case—viz., retroversion of uterus from a fibroid tumour in the posterior wall, and consequent retention of urine. The patient said that for some months past, more especially at her menstrual periods, she had suffered from some difficulty in passing water, but never until now had there been complete retention. Some days afterwards, while the patient was in the genu-pectoral position, I pushed the tumour well up to brim of pelvis, and retained it pretty well in position by means of a Hodge. From that time till now I have steadily pressed ergotine subcutaneously, and removed the Hodge at intervals. There has been no return of retention, and the menorrhagia is considerably lessened. Examples of retention from this cause are, as a result of the mechanical pressure of a fibroid tumour, not uncommon. Fibroid tumours frequently cause retroversion of the uterus. The causation of the retention is exactly similar as in gravid retroversion. The fibroid tumour in the posterior wall of the uterus had gradually increased the weight of the fundus, and given it a backward inclination, and with the gradually increasing bulk of the fibroid the retroversion had become more and more pronounced, until in the course of months or years the uterus had reached a size corresponding to a three months' pregnancy. As the fundus uteri sank deeper into the pelvis, the cervix was pushed against the urethra, causing at first some difficulty in micturition. As the bladder distended it drew the cervix upward until it was beyond the reach of the examining finger. Then, partly from the increased pressure on, and partly from the greater stretching of, the urethra, the retention was complete. It is worthy of remark, that the difficulty in passing water during the previous months, as well as the complete retention, occurred at menstrual periods, when the uterus and fibroid would be swollen from local determination of blood and from the increased weight, the fundus would be deeper in the pelvis, and the cervix jammed more firmly against the urethra.

The relief afforded by the catheter in a case such as this is only temporary; for the permanent cure of the retention it becomes necessary to attempt a more convenient adjustment of the obstructing mass. If there are no adhesions, and the tumour be neither too large nor too firmly jammed in the pelvis, it can often enough be pressed upwards to the brim by a manœuvre similar to that employed for reducing a similarly dislocated gravid uterus. If retained in this position by some modification of the Hodge pessary the fibroid will increase upwards in the direction of least resistance, and the urethra and neck of bladder be relieved from pressure. Some-

times, however, such manipulation is impracticable, as in the following case: - J. H., aged thirty-eight, single, has been for months under my care at the Western Dispensary. She requires from time to time to have the catheter to relieve her of retention of urine caused by the pressure of a large fibroid mass firmly fixed in the pelvis. pelvis, as well as the abdomen, as far up as three inches beyond the umbilicus, and to within half an inch of the crista ilii on either side, contains a large, solid, irregular mass of fibroids, one of which has sunk deep down into the pelvis, until it almost rests on the perinæum. It is just possible to reach the posterior lip of the cervix. The patient suffered from profuse menorrhagia. In such a case it is impossible to remedy the position of the pelvic mass, and the catheter affords the only relief. The patient has had ergotine administered hypodermically for some months, and of late her hæmorrhage has been markedly diminished, and her attacks of retention less frequent.

Retroversion of the uterus from a fibroid tumour is generally slow in its development, but it may take place suddenly, as in the case mentioned by Graily Hewitt,* when the uterus with its contained fibroid became suddenly retroverted from a fall, and retention of urine to an enormous extent was the result—the mechanism both of the retroversion and retention being much the same as in the first case I have

recorded of gravid retroversion.

Among the causes external to the bladder mechanically interfering with micturition may be ranked nearly all the swellings to be felt through the posterior fornix vaginæ, lying in the retro-uterine cul-de-sac; for example, an ovarian tumour, an effusion, the result either of para- or peri-metritis, an abscess and extra-uterine fœtation, or, as in the following case, from the sudden effusion of blood in hæmatocele.

In February, 1878, I was asked to see a patient, aged thirty-two, a lady, on her second wedding tour. I saw her early in the forenoon, and found her suffering from much pain in the umbilical region, of a gnawing, twisting character. There was no increase of pulse or temperature. The pain was relieved on pressure. A menstrual period was just due. Rest and a full opiate were ordered. At II P.M. the same evening she was in a state of collapse, extremities cold, pulse very feeble and rapid, vomiting. On examining the abdomen a distinct fulness was felt all over the brim of the pelvis, but especially in the right iliac fossa; per vaginam there was a soft doughy bulging in the space of Douglas. During the night Professor Simpson was kind enough to see the lady in consultation, and confirmed the diagnosis of a hæmatocele. The following morning the swelling in the retro-uterine space was more marked, of a firmer consistence, and extended on either side of the uterus. The uterus was pressed up-

^{* &}quot;Diseases of Women," 3rd edition, p. 135.

wards and forwards against the neck of the bladder and was fixed. The same evening the patient was unable to pass her urine, which had accumulated to a considerable extent. The catheter was used. The causation and management of the hæmatocele are no concern of the present paper. The progress of the case is alone of interest. Without being tedious, it was simply this, that within a fortnight all trace of the hæmorrhage had entirely disappeared. The swelling in the space of Douglas was the last portion of the effusion to be absorbed. Retention of urine lasted but for the first three days, when the post-uterine tumour was largest, and the cervix-uteri consequently most firmly pressed upwards and forwards against the neck of the bladder.

Although the mechanical pressure of displacements or tumour just mentioned forms, apart from labour, the most common cause of retention of urine, yet causes acting reflexly are more frequent, perhaps, than appear at first sight. Take, for example, the following case:—

Miss B., aged fifty-five, has been at various periods under my care for trifling ailments. In January, 1876, she told me that for some months she had great pain on passing her water—so much so that occasionally she had been unable to pass it at all, except when sitting over very hot water. When the urine did pass she felt as if a red-hot wire were in the urethra. The urine passed in jerks and in a small stream. I explained that a local examination was absolutely necessary. To this nothing would induce her to submit. Some weeks afterwards I was summoned to her one evening, and found her suffering much from a distended bladder. She had not passed any urine for two days. The bladder could be felt distinctly enlarged through the abdominal walls. The patient said that all the remedies which had hitherto been useful, such as sitting over steam, warm baths, and warm fomentations had on this occasion failed. On introducing my finger to the meatus with the view of passing the catheter, the patient screamed and drew herself up in bed. A visual examination was insisted on, and obtained with much difficulty. Round the meatus urinarius the red, vascular, sensitive excrescence characteristic of the urethral caruncle was observed. The little tumour, which was about the size of a small cherry, entirely encircled The catheter was introduced and the water drawn off. The following day, while the patient was under chloroform, I snipped off the caruncle and cauterised its base with a red-hot knitting-wire. I saw the patient lately, and she has not again suffered from retention. In such a case the retention was not due to mechanical obstruction to the passage of the urine, but partly due to a dread of allowing the urine to come into contact with the exquisitely tender surface of the caruncle, and partly to the irritable little body causing reflexly a spasmodic stricture of the urethra or neck of bladder. These urethral caruncles are, of course, recognised as a frequent cause of distress during micturition, but they are rarely alluded to

as causing complete retention. Sir James Simpson* mentions the case of a girl in his ward in the Hospital who had a caruncle as large as a cherry. In her case the pain she felt on passing water was so severe that she used to retain it in the bladder for twelve hours at a time, and she looked forward to the period when the bladder must be emptied with the utmost horror. Probably in the case I have just related the retention was at first voluntary, until the distention became so great that the patient lost control over the viscus.

Dollmayr† mentions a form of retention in subjects of advanced age, in which, owing to continued inflammatory action set up in the mucous membrane of the urethra, polypoid thickening of the membrane takes place. In an extreme case of this kind he has found the urethral meatus surrounded by little ruddy eminences, which bleed freely when touched. He asserts that this condition is only observed in those who have long ceased to menstruate, and is very gradual in its onset; the urine being voided with increasing pain and in a gradually diminishing stream. Nitrate of silver or sulphate of copper have in his hands been completely curative.

The sympathy between the urinary organs and the lower bowel during the rectal excitement due to piles is a matter of common observation. It is seldom that hæmorrhoids cause complete retention. I believe that some of the cases of retention of urine after an ordinary labour are due entirely to reflex action of the piles, swollen, stretched, and torn during the second stage of labour. Piles and fissure of the anus are certainly much more common in women than men, and perhaps the pressure of the head on the rectum may be a more frequent cause of post-partum retention of urine than is com-

monly recognised.

The retention of urine occasionally met with in lying-in women, when it occurs immediately after labour, is no doubt in many cases due to paralysis of the bladder, or direct contusion of its neck, the result of a tedious labour; sometimes also to the development of inflammatory action in its neighbourhood. In many cases, however, of normal labour, neither paralysis, contusion, nor inflammatory action will account for the retention, for none of these are present. In the cases which have come under my own observation, the retention has occurred most frequently in primiparæ, and seems to occur just as often after a normal labour as after a tedious or instrumental one.

In these cases of natural retention of urine where labour has taken place it has always been associated with a more or less extensive rupture of the perinæum. It appears very probable, therefore, that the raw, torn perinæum may reflexly cause retention of urine much in the same way as fissure of rectum or hæmorrhoids. The following

^{* &}quot;Clinical Lectures on Diseases of Women," Medical Times and Gazette, 2nd April, 1859.
† Medicinisch-chirurgisches Centralblatt, No. 40, 1876.

case seems to be particularly instructive on this point:—In February, 1875, I attended Mrs. I. in a tedious labour, resulting from a face presentation. Forceps were used. Owing to the non-rotation of the chin, considerable difficulty was experienced. The perinæum was torn up to, but not through, the sphincter. It was carefully stitched immediately on delivery, and united almost completely. There was complete retention of urine, requiring the use of the catheter for five days. Her next labour took place last June. It was rapid, almost precipitate. The patient was delivered before she could undress and get into bed. The point of union of perinæum gave completely up to the sphincter. It was not stitched, and united very slowly. There was retention, requiring catheter for three days. The comment is obvious—while the contusion and pressure of a tedious face case may have been the cause of the retention in the first case, no such cause can be assigned for the retention in the second. In the absence of contusion, paralysis or inflammative reflex irritation of the torn perinæum seems a very probable explanation. Dr. Macculloch, one of the present residents in the Maternity Hospital, has noted for me the cases where retention of urine has occurred after perfectly normal primiparous labour during the past two months. Five such have occurred, and in each there has been a more or less extensive rupture of the perinæum. Indeed, the duration of the retention seems to be in proportion to the extent of the rupture, for while in four cases the rent varied from $\frac{1}{2}$ to $\frac{3}{4}$ inch, the retention lasted two days; in the fifth, where retention lasted for a week, the rent was to the verge of the anus.

I have not met with retention of urine requiring the use of the catheter in hysterical women. Perhaps the less this instrument is used in such women the better. It may be that the following case had an element of hysteria in it; certainly it taught me a useful lesson.

Helen H., aged thirty, unmarried, was placed under my care in connexion with a charity, for which I act. She was supposed to be suffering from an ovarian tumour. She had led a very dissolute life in fact, had been for some years little better than a common prostitute. She had been twice in the Lock Hospital, had aborted frequently, but never had a child at term. On examination I found the abdomen distended by a regular, even, dull tumour, extending from the pelvis to an inch beyond the umbilicus. It was inclined slightly to the left side. Patient said she had noticed it on the left side six months before, and that it had gradually increased since that date. Per vaginam there was considerable leucorrhœa and a large, probably syphilitic, erosion, including both lips of cervix uteri. The patient's urine, which was very scanty, was examined, and found to contain albumen. From the patient's history, and the account given to me by the matron of the institution, as well as my own examination, I arrived at the conclusion that the patient suffered from an ovarian cystic tumour. I wrote a note to the lady who sent her in to that effect, recommending that she should be placed under Professor

Simpson's care in the Hospital. Two days after I was sent to see her, and found her suffering much pain in back and loins, and the tumour increased in size and tender. What further diagnosis I might have arrived at I cannot say. Fortunately for me, the patient asked me to draw off her water with a catheter. This I did, and relieved her of several pints of very turbid, highly offensive urine; at the same time the abdominal swelling gradually and entirely disappeared. She afterwards calmly informed me that she had been under the necessity of having a catheter passed repeatedly both in the Edinburgh and Glasgow Infirmaries. Probably the sore on the cervix may have had something to do with the retention to begin with. My conviction is that the woman retained her urine for the purpose of deception. She was well up in tumours of various kinds, and had frequently received charity as a sufferer from an internal tumour. Now and then she overdid the retention, and had to go to hospital to have it relieved. Cases have occasionally occurred in which the distension of the bladder has been mistaken for something else. The present case affords a good illustration of making sure of the condition of the bladder before settling the nature of a similar tumour. It further serves to show that the bladder may be partially emptied from time to time, and yet the retention remain. Though in this patient the retention was so far voluntary, and done with intent to deceive, yet in some cases the dribbling away of urine from an over-distended bladder may deceive the patient. How often is this the case during labour.

Retention of urine from actual stricture of the urethra is, so far as I know, extremely rare, probably, no doubt, owing to the relative shortness and great dilatability of the female urethra. Dr. Adams* mentions a case occurring in the practice of Mr. Curling, in which puncture of the bladder was necessary. The disease had arisen from the contusion to which the urethra had been subjected during a tedious labour twenty-eight years before. Sir Benjamin Brodie† met with a case of stricture of the female urethra which would not admit

the finest probe.

Most of us are familiar with a form of partial, sometimes complete retention, resulting from the impaction of a calculus in the urethra, easily enough diagnosed, and, from the dilatability of the tube, as easily removed.

It would thus appear that the causes leading to retention of urine

in the female may be thus conveniently grouped:-

1. Injuries or contusions during labour acting directly or by subsequent inflammations.

2. Pressure of displacements or tumours acting mechanically on urethra or neck of bladder.

3. Injuries or growths acting reflexly.

4. Diseases of nervous system.

^{* &}quot;Cyclopædia of Anatomy and Physiology," vol. iv. part ii. p. 1266. † Ibid.

5. Direct obstruction within the tube of the urethra, as from stricture or foreign bodies, such as a calculus.

In drawing this paper to a conclusion there are one or two points

which seem worthy of note.

r. In all cases of retention of urine a vaginal examination is necessary.

2. A gum-elastic male catheter of medium size, without the stilette,

is the best form of instrument to employ.

- 3 In retention from displacement it is important to remember the altered position of the urethra. In retroversion of the gravid uterus the vagina is drawn upwards and forwards, the meatus is drawn upwards, and the direction of the upper part of the canal is backwards and downwards.
- 4. When any difficulty exists in accounting for the retention a visual examination should be insisted on.

5. It is a safe rule, before giving a definite verdict on any pelvic-

abdominal tumour, to empty the bladder.

Professor SIMPSON read the following note on a case of plum-stone in the rectum:—On the evening of Friday, 24th August, 1877, a healthy young lady was delivered after a short and easy labour of her first child. On the two following days her condition was most satisfactory. At my visit on Monday morning, also, there was nothing amiss, and the bowels, which had acted on the morning of her confinement, were now moved for the first time since by a dose of castoroil. I was surprised, therefore, by receiving an urgent message between six and seven o'clock in the evening to go and see the patient. On arriving, I found that she was suffering from retention of urine. She believed that the bladder had been relieved when the bowels were moved, but had had a sense of need for micturition, and had made a series of ineffectual attempts during the afternoon till the distress had become intolerable. I suggested the adoption of the various ordinary expedients, and, as I named them one after another, the old experienced nurse who waited on her laughed, and said, "We've tried everything. You must just use the catheter." I have a strong aversion to the precipitate use of the catheter, as I do not think its introduction even into the female bladder is a matter of indifference. I was curious, moreover, to discover a cause for the inability to empty the bladder which had supervened so mysteriously. Having seen cases where the condition was associated with hæmorrhoids, I inquired whether the patient had ever suffered from piles, and ascertained that before her marriage she had some little trouble from that cause, and that since the evacuation of the bowels in the morning she had had some slight discomfort that reminded her of her former trouble. An examination per anum was proposed and agreed to. Immediately within the sphincter ani I came upon a hard body that made me for a moment think of a scybalous concretion; but the transitory impression was removed as the tip of the finger passed beyond it and recognised it as a plum-stone, the sharp point of which

had got entangled in the mucous membrane just at the upper border

of the sphincter posteriorly. A slight push upwards sufficed to dislodge it from its position. I then pressed it against the posterior wall of the rectum, and catching it with its thicker extremity against the distal and the more pointed extremity against the next phalanx of the index finger, I extracted it without causing the patient any suffering. When the examination was completed, she was surprised at being asked if she had been eating plums since her labour, and confessed to having enjoyed a plum-tart the day before her confinement, and to having had some misgivings that she had then swallowed a stone. The bladder was speedily relieved by the natural efforts. On inquiring for the *corpus delicti*, however, on my return, the careful old nurse said she had put it in the fire, that it might not give anybody any further trouble. The discussion on this case and Dr. Croom's paper then took place.

Professor Simpson brought forward this case in connexion with Dr. Croom's very able essay, as the most striking illustration he had met with of reflex cause of urinary retention. In regard to that he thought it extremely interesting, and of high practical value. The cases had been brought together in a scientific manner and carefully narrated, without being overloaded with extraneous matter. He was not satisfied, however, that Dr. Croom was altogether justified in the relation that he maintained to subsist between retention and the retroversion of the gravid uterus. While the immediate retention and impossibility of evacuation of the urine was doubtless caused by the uterine displacement, yet in some of these cases habitual inattention to the calls of nature, and over-distension of the bladder, might have

aggravated the tendency to the retroversion of the uterus.

Dr. Keiller agreed with Professor Simpson as to the character of Dr. Croom's paper, which he had listened to with great interest. He had seen a great variety of cases, and many similar to those referred to. The first one related by Dr. Croom reminded him of an interesting case he had witnessed many years ago. In this case the uterus was gravid and retroverted; the urine was drawn off, and a tumour was found pressing into the hollow of the sacrum. This case he always retained a lively recollection of, as being the first one in which he had recourse to intra-vaginal stethoscopy, the uterine murmur of pregnancy being readily heard by auscultation per vaginam. In retention of urine in the female, he thought two causes mainly operated—Ist, Too long voluntary retention; 2nd, Long-continued pressure during pregnancy and labour. Dr. K. had not traced retention to lacerated perinæum, of which he had ample experience.

Dr. RITCHIE thought the sudden occurrence of the retroversion a cause of retention. He had for long regarded two causes at work, the uterus being displaced before pregnancy, and the bladder being allowed to be distended too long. In the latter condition, a shock such as had been spoken of might produce complete retention in the early months of pregnancy. As to laceration of the perinæum as a cause, he alluded to the fact that, in Dr. Matthews Duncan's recent paper read to the Society on this subject, it had been brought out

that in not one of the cases recorded by him had retention occurred from that alone; injury of the vestibulum was necessary. A reflex case had happened in his practice of retention after the application of a blister. The patient was hysterical, had been previously catheterised by an American female physician, and, on her arrival in this country, injured a knee-joint, for which her medical adviser applied a blister, and she subsequently came under his care for retention, which he could not overcome without the catheter.

Dr. Macdonald commended the paper. He differed from Dr. Croom in his opinion as to frequency of retention in perineal rupture. In his experience, this cause had not operated in the way of causing retention. He referred to Olshausen's theory, in which he ascribed retention to acute flexion of the urethra from normal anteversion of the uterus after delivery.

Dr. Wilson thought, in the majority of cases, retroversion gave

rise to the retention, not the retention to the retroversion.

Dr. Croom briefly replied. While he believed that a distended bladder might, in cases of a sudden shock, render retroversion of uterus more likely to occur, yet the retention of urine in the great majority of cases was the result of retroversion of the uterus existing before conception.

Case of Cephalotripsy. By Dr. Keiller.

Dr. Keiller exhibited a large child he had delivered by cephalotripsy. The cephalotribe used was still in situ, as at time of operation. It occurred in the practice of Dr. John Moir, jun. The patient, thirty-five years of age, previously had borne five children at full term—the first, a female, born naturally, without instrumental assistance; the second, a male, born with instruments, the marks of which still are seen on the neck; the third, a male, dead-born, with instruments; the fourth, a female, dead-born, with instruments; the fifth, a female, safely without assistance; the sixth, or present child, a male, dead, by cephalotripsy. When Dr. Keiller visited the patient she had been many hours in labour; the head was in the third position at the brim. He tried to turn, but the uterus being firmly contracted, it was not found possible. He then applied forceps, which slipped. Perforation was then had recourse to, and the crotchet applied, but without avail. The cephalotribe was then used, and with the satisfactory result which the preparation he now exhibited sufficiently demonstrated. The cephalotribe was one of his own construction, much smaller than those in general use, but, in his experience, an instrument of great usefulness. After delivery, he found the pelvis measured $3\frac{1}{2}$ inches in its conjugate diameter. In this case, he thought possibly turning might have proved successful had it been resorted to in time. In referring to the various kinds of instruments suitable for craniotomy or cephalotriptic purposes, Dr. K. expressed his strong conviction in regard to the unduly powerful

instruments which some of our most distinguished obstetricians deem it necessary to have forged into baby-head crushers. He had ceased to look upon the operation of cephalotripsy as a measure merely intended for, or only calculated to meet exceptionally desperate cases of pelvic contraction; in such cases, for example, as the present and in other craniotomy requirements, apart from extreme distortion, a well-constructed, and, at the same time, sufficiently handy crushingextractor, would be found suitable for their comparatively easy and successful termination. In the preparation now exhibited, the crushing power of Dr. Keiller's cephalotribe was most satisfactorily proved, while the sinking of its blades deeply into the effectively crushed fœtal head beyond the risk of mischief to the maternal passages was unusually well illustrated, a point to which Dr. Keiller directed special attention, as it went to show the safety with which such an instrument could be allowed to remain on the head, and the ease with which it can be guided during the movements of its descent, rotation, and expulsion, all of which, with due attention to the special mechanism of the case in hand, can be, in most cases, greatly expedited, without the necessity of removing the instrument.

Dr. MACDONALD had, within the last two months, met with two cases of almost a similar nature to that just related by Dr. Keiller. In the first one, the previous labours had been terminated by forceps. On this occasion forceps were applied, but slipped; being reapplied, they held firmly, but it was found impossible to extract. He then performed craniotomy with success. The pelvis was 3½ inches anteriorly. In the second case, a second labour. The first labour was natural and terminated without assistance, the child now living. the present occasion the forceps were applied, but slipped. Craniotomy was then performed. Some difficulty was experienced in extracting the shoulders. The child was a very large one, the pelvis of natural size. The case exemplified the fact that dystocia was not always necessarily caused by contracted pelvis. He thought Dr. Keiller's instrument a most useful one. It was readily applied after perforation, being much preferable to the larger instrument, which was intended to be used without perforation.

Obstetric Summary.

Failure of Milk Diet in the Albuminuria of Pregnancy.

Dr. N. Charles, of Liége, relates a case of albuminuria during pregnancy, in which a strict milk diet entirely failed to effect any benefit, and which resulted in eclampsia and ended fatally, in spite of all treatment. The patient was twenty-eight years old, and pregnant for the second time. Her first pregnancy had been cut short by eclamptic convulsions, which soon led to the expulsion of a stillborn fœtus of seven months. At the sixth month of the second pregnancy traces of albumen were discovered in the urine, but the

general health was excellent, and there was no cedema. Iron was administered, and the patient ordered to take one litre of milk daily in addition to ordinary diet. A fortnight later the proportion of albumen had increased; gallic acid was then prescribed, with a purgative every other day and two litres of milk daily. Notwithstanding this treatment, the proportion of albumen continued to increase, the legs became ædematous, and there was occasional disturbance of sight. Exclusive milk diet and daily purgatives were now ordered. The question of induction of labour was considered, but as the general condition was good and the ædema did not further increase it was decided to wait, although on November 7th, 1876, the urine contained half its bulk of albumen.

Two days later, on the evening of the 9th, the patient was seized with intense gastralgia and bilious vomiting, without any other symptoms. A draught containing chloral and morphia was administered, but was partially rejected, and did not relieve the pain. At 4.30 A.M. an eclamptic convulsion occurred, followed within half an hour by a second. It was said that during the gastralgic pain the patient had felt convulsive movements in the uterus. She was now found unconscious, and the feetal heart could no longer be heard. A third convulsion followed at 5.30. The patient was then bled to eight ounces and the legs were scarified, giving exit to a large quantity of serum. Soon after, o.o1 grm. of hydrochlorate of morphia was injected subcutaneously, and a purgative administered. Very little of this could be taken by the mouth, and the rest was afterwards given as an enema. Chloroform was also given by inhalation whenever a convulsion appeared to be threatened. The fifth fit occurred at seven o'clock, and the sixth at nine. Meanwhile two more subcutaneous injections of morphia had been given, and the administration was now commenced of chloral and bromide of potassium by enema every quarter of an hour. By this time the os was dilated to the size of a two-franc piece. At eleven o'clock the temperature was 37° C. The os was dilated to the size of a twofranc piece, and at this time an india-rubber dilator was inserted and the morphia injection repeated for the fourth time. By noon the os was dilated, and the head had descended into the cavity of the pelvis. Short forceps were applied, and a stillborn female child, 42 cm. long, was extracted. The urine, withdrawn at this time by catheter, was tinged with blood, had a specific gravity 1028, and became almost solid with heat or nitric acid.

The patient remained in the most profound coma, and fits recurred at 1, at 3, at 4.30, at 6, and at 8 P.M. At 4.30 P.M. the temperature was 38°·3 C., pulse 80; at 8 P.M. the temperature was 39°·9 C., pulse 110; and at this time loud bronchial and tracheal râles had commenced. On the morning of the 11th there was apparent improvement; the râles had diminished, and the temperature fallen to 39°·4 C., but the pulse was 120 and small. Two enemata were given, containing each two drops of croton oil, but only one slight motion was procured. In the evening the temperature had fallen to

38°.9 C., but the pulse was 125 and very small; râles had again increased. On the morning of the 12th the temperature was 38°.0 C., pulse 130. Towards noon the patient died, without having for a moment recovered consciousness.

The author remarks upon the total failure in this case of the prophylactic treatment, with regard to which such high hopes had been raised by M. Tarnier. He notes that the kidneys must have retained, if not an actually diseased condition, at any rate a very decided morbid susceptibility ever since the affection which led to eclampsia in the first pregnancy. He points out also that the temperature did not follow in this case the law laid down by Bourneville, who concluded that it always became elevated in eclampsia, and, in fatal cases, rose progressively to an excessively high point. In this instance, after several fits, the temperature was normal. At a later period it rose considerably, but again descended before death.—Archives de Tocologie, March, 1878.

Gynæcic Summary.

Spontaneous Expulsion of a Large Fibroid Tumour.

In a paper read before the Société de Médecine de Lyon, Dr. Ygovin relates a case of an enormous intra-uterine fibroid which ended fortunately after spontaneous expulsion, the patient having been long in great peril of life. It occurred in a single lady forty-three years old. Menses commenced at the age of eleven, and were normal until 1867, when she began to suffer from dysmenorrhæa, and after this time menstruation gradually became irregular and profuse. In July, 1871, the author was called in on account of sudden and severe flooding, which was checked by ergot and cold applications. This recurred from time to time, and in January, 1873, was so severe as to threaten life. A vaginal examination was then for the first time The finger on being introduced into the vagina encountered a large hard rounded body, of the size of a feetal head at full term. The os uteri was displaced backwards and upwards so far as to be out of reach. For the next year the patient was under homoeopathic treatment, and the author was not again called in till February, 1876. The pulse was then rapid and small, the tongue furred, extremities cold, bowels constipated, the swelling in the hypogastric region increased, and the abdomen somewhat tympanitic. For some time the severe hæmorrhage had been replaced by a sanious, thick, offensive discharge. She was still able to walk about the room, but generally kept her bed. Vaginal examination gave the same result as before, and it was still impossible to reach the os uteri. All surgical interference was therefore judged to be impracticable.

She continued much in the same state till May, 1875, when the author was summoned on account of temporary retention of urine. The tumour had then not appreciably changed its position, but the general health had become more feeble, and there was much difficulty

in overcoming an obstinate constipation. The author only saw the patient at long intervals up to June, 1876, at which time her state had very greatly changed for the worse. The face was puffy and pale, and there was considerable cedema of all the limbs, especially the legs; the abdomen was also distended by ascitic fluid; the pulse was thready, and extremities cold. On the inside of both feet were gangrenous patches, which afterwards became converted into sanious ulcers, of which the cure was long and difficult. The patient could not lie down without being threatened with suffocation, and for about two and a half months she had not quitted her arm-chair night or On vaginal examination, the tumour was found to be slightly projecting through the os uteri, and thus was explained a colicky pain, of which the patient had complained a few days before. labia were highly edematous. In view of the very grave general state, the author determined on a plan which he had before found useful in similar conditions; namely, to put in action a powerful local derivative by making a series of issues in each leg with potassa fusa. An abundant discharge of pus mixed with a great quantity of serum was thus produced; the general cedema gradually diminished, the dyspnœa was relieved, and the patient was enabled to rest in bed and obtain sleep. The gangrenous ulcers of the feet gradually healed, and at the end of about two months cedema had given place to extreme emaciation, which from that time went on increasing.

At the end of September pain again set in, and on October 2nd the author was summoned on account of retention of urine. The tumour had then completely descended into the pelvis, and partially passed the os uteri, presenting by one extremity in the form of an elongated hard body, which filled all the upper part of the vagina. This so compressed the urethra that catheterism was difficult. Often the catheter entered a false passage, and reached a cavity, at 20 cm. depth, from which issued offensive sanious pus. After a while the bladder regained its functions, and, with the exception of occasional hæmorrhage, no grave accident occurred up to September, 1877. Although tempted to interfere and attempt the removal of the tumour, after dilatation of the cervix, the author refrained from doing so, fearing the hæmorrhage and other risks of the operation in the patient's feeble condition. The final issue of the case occurred in the temporary absence of the author. On September 12th retention of urine occurred, and the catheter was passed with difficulty, the tumour occupying then the whole extent of the entrance of the vulva. On the 15th uterine contractions, like those of labour, set in, and on the morning of the 16th the tumour was found almost completely expelled, and was readily detached, the pedicle or base having been apparently separated and destroyed by the suppuration which had occurred in it. The tumour formed a mass weighing 650 grammes (about 1 lb. 7 oz.) and was 18 cm. long, the greatest circumference being 37 cm. The place of insertion of the pedicle could not be distinctly made out.—Archives de Tocologie, February, 1878.

Ovarian Dyspepsia as a Cause of Phthisis.

In an article contributed to the American Fournal of Obstetrics, Dr. Milner Fothergill dilates on the importance of ovarian irritation as being a reflex cause of a large proportion of cases of dyspepsia in women. He has observed that a large number of patients attending the City of London Hospital for Diseases of the Chest, with consolidation of one or other apex, night sweats, a heightened temperature, loss of flesh, and the other symptons of phthisis, had a good family history, and also often a good physique. The main concomitants of these cases of phthisis were soon seen to be dyspepsia, with leucorrhoea and menorrhagia. Thus a defective body income was linked with an excessive body expenditure, producing a condition of general malnutrition, just the condition favourable to the development of tubercle. It appeared that in such cases the leucorrhea had existed some time, with or without menorrhagia, and then that the stomach became disturbed, and a dyspeptic condition established. It was also clear that this was not merely a casual association, but that the prime cause was a state of vascular excitement in one or both ovaries, usually the left ovary. In this state there is always more or less pain in the iliac fossa, much aggravated at catamenial periods, when the pain shoots down the thigh of the corresponding side along the genito-crural nerve. Pressure over the tender ovary elicits pain, which at the time of the catamenial flow is very acute. Not only pain is produced, but a wave of nerve-perturbation, often producing faintness and nausea. The enlarged and tender ovary may sometimes be caught between the fingers at bi-manual touch; but frequently it is covered by a hard and rigid rectus muscle, which stiffens so as to place the organ as perfectly in rest as possible. In most cases there is neuralgia of the sixth or seventh intercostal nerve on the same side as the affected ovary. The os is patulous, or uneven and hard; there is always leucorrhea; there is commonly menorrhagia, but less frequently there is imperfect or lessened menstrual hæmorrhage. Not rarely, too, there is set up a very distressing condition, that of recurring sexual orgasm. This occurs most commonly during sleep, but in aggravated cases, also during waking moments, without any reference to psychical conditions. It is found alike in the married and unmarried, and is certainly not due to the repression of the sexual instinct. secondary effect sometimes produced is a state at once of weakness and irritability of the bladder centres in the lumbar portion of the spinal cord. The brief recurrent orgasm leads to sudden and imperative calls to micturate, which must be attended to at once, or a certain penalty be paid for non-attention.

The author explains the dyspepsia on the ground of the physiological doctrine first established by Claude Bernard, that the function of the pneumo-gastric nerve is to dilate, that of the sympathetic to contract, the vessels of the stomach, while galvanic stimulus of the pneumo-gastric nerve excites an active secretion of gastric juice, and

a like stimulus applied to the sympathetic nerves issuing from the semi-lunar ganglion causes a diminution and even complete arrest of the secretion. The irritation set up in the ovary therefore traverses the sympathetic fibres, arrests the flow of gastric juice more or less

thoroughly, and dyspepsia is the consequence.

As treatment the author gives, in the first place, purgatives, so as to insure an emptying of the bowels at bed-time as well as in the morning, and avoid the existence of any load in the lower bowel during sleep. The best purgative he finds to be sulphate of magnesia, which may be given alone or with aloes. If the stomach rejects all medicines they must be given in enemata; but by means of a hypodermic injection of morphia in a full dose the stomach can usually be soothed into tolerating medicines. As a curative agent he relies chiefly upon bromide of potassium in 20-grain doses combined with some bitter, such as infusion of gentian. He also finds counterirritation, in the form of a blister over the tender ovary, very useful. He thinks that one nerve-wave may meet and neutralise another like waves of light, and that by the irritation of a sensory nerve at some little distance from the first the reflex action which would otherwise result from the first stimulus may be altogether inhibited or restrained.

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INFLUENCE OF POSTURE ON WOMEN.

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(Concluded from p. 646, vol. v.)

CHAPTER VII.

POSTURE IN OBSTETRIC EXAMINATIONS AND OPERATIONS.

THE operative procedures necessary in treating functional anomalies of gestation and parturition have already been considered in Chapter IV. Here it is intended to draw attention to some examinations and operations connected with pregnancy and labour which have not hitherto been noticed, and which more especially belong to operative midwifery.

I. Examinations.

- (a.) Tactual Examinations.—By the aid of touch alone a large amount of valuable information may be obtained. The sense may be used in various ways, and each method may be made to verify or rectify the evidence afforded by the others.
- (a.) Internal Examinations are made by passing the finger, fingers, or hand into the parturient canal.

I. Standing.—In this country the erect posture is seldom used in vaginal touch. It may, however, be useful to employ it in some cases—e.g., when it is desirable to discover the extent of a varicose condition of the uterus, vagina, or vulva—for in this posture the veins become distended to a much greater degree than when the patient is recumbent. To be examined standing the patient should rest with her back against some unyielding surface, with her knees separated, or the obstetrician who kneels before her may employ his non-examining hand in supporting the patient's loins.

2. Recumbent.—Nearly all internal examinations can be best made while the patient is in the left lateral or dorsal recumbent posture. If the former be employed the rectum and vagina can be readily explored; but if in this position the labia cannot be easily separated, the latter will be found easier for the operator, and less painful for the woman.

(β .) External Examinations.—Palpation by one or both hands may be performed whilst the patient is in different postures, and these must be selected according to the peculiarities of the parts which have to be examined and the nature of the information sought.

I. Standing.—This posture has few, if any, advantages; but it has many positive disadvantages. It is fatiguing to the patient, and she cannot flex her thighs to remove tension from the abdominal muscles.

2. Recumbent.—The dorsal recumbent posture is without doubt the most generally useful position in which a woman can be placed when undergoing abdominal examinations. She should lie with her head and shoulders raised, with her knees drawn up and separated, and her feet resting on the surface upon which she lies. If the abdominal walls be thick and unyielding greater relaxation can be obtained by placing a pillow under the hips, for in this way the spine is flexed to the greatest extent. In this posture both palpation and percussion can be effectively practised.

 (γ) Combined Examinations.—The external and internal methods of examination, when employed simultaneously, are extremely useful, and should be practised while the patient is in the dorsal recumbent position, with her abdo-

minal muscles relaxed, in the manner described in the last paragraph.

- (8.) Repercussive Examinations (Ballottement).—Between the fourth and seventh months of pregnancy the fetus floats so freely in the uterine cavity, and gravitates in it so sensibly, that these characteristics have been used in determining whether or no a child exists in the womb. Whatever may be the posture of the mother, the fetus gravitates and remains in contact with the most dependent part of the uterus. If at this point the fingers be made to press suddenly upwards, so as to propel the fetus vertically, it will shortly fall by gravitation, and the fingers will feel the repercussion as it alights.
- I. Internal Repercussion.—This is usually performed while the patient is standing; but if the axis of the uterus be remembered, this position will at once be recognised as unscientific. Percussion by the fingers in the axis of the vagina will strike the uterus laterally, and fail to cause the required movement of the fetus. When the mother is erect the weight of the child is borne by the pubic bones and lower part of the abdominal walls. Internal repercussion should, therefore, be employed while the patient sits on the edge of a chair or bed, with her body in the dorsal reclining posture, for thus placed, the uterus will be perpendicular, and the head of the fetus will rest upon the uterine neck. Vertical percussion, while the patient is thus posed, will be most likely to give the desired fetal repercussion.
- 2. External Repercussion.—When the fœtus floats freely in the cavity of the uterus, repercussive signs may be obtained externally while the patient is in almost any posture. The best position, however, for external repercussion is the kneehead-descending, for in this posture the uterus is vertical, and sudden pressure from below upward causes the fetus to recede, and fall with its whole weight upon the fundus.

Another form of external repercussion may be observed when the mother turns rapidly from one side to the other, when the fall of the fetus upon the lower lateral wall of the uterus may sometimes be felt by the hand.

(b.) Visual Examinations.—Although examinations of the

breasts may be included under this heading, it is scarcely necessary to refer specially to them, as they may be made while the patient is in any position.

- (a.) Internal Examinations.—These may be effected when the woman is on her side or back. The latter is generally the better posture, for during gestation and parturition the labia are often tumified, and cannot be sufficiently separated when the lateral recumbent position is adopted. On the back also the speculum can be passed with less pain, and any altered condition of the neck of the uterus or of the vaginal or vulvar mucous membrane may be more readily observed.
- (β) External Examinations.—The general conformation of the abdomen can be best seen while the patient is standing or lying on her back; but it may be requisite to change her position if it be desirable to know what influence gravitation of the fetus and uterus may have in altering the contour of the abdominal walls. Changes in the navel and surface of the skin may be best observed when the woman is in the dorsal recumbent position.
- (c.) Aural Examinations.—Auscultations of the fetal heart, &c., can usually be best effected while the patient is on her back, with the shoulders and knees raised; but sometimes, by turning the woman on her side, the cardiac sounds can be detected when they are inaudible in the first-named position.
- (d.) Mensural Examinations (Pelvimetry).—Measurements of the pelvis may be taken of its inner or outer surfaces by the hand or by instruments.
- (a.) Internal Mensurations can be effected while the patient is lying on her left side or back.
- (β) . External Mensurations, by means of calipers, may be best done while the woman stands or lies on either side.
- (γ) Combined Mensurations can be most readily made while the patient lies on her back, with her knees and shoulders raised.

2. Operations.

(a.) Turning.—Posture may be often advantageously used

to facilitate or effect changes in the position of the fetus whilst in the uterus.

- (a.) Postural Turning by the Head.—If the head of the fetus be situated too much to the right or left above the brim of the pelvis, and the membranes be not ruptured, rectification of the fetal malposition may be effected by posture. The woman must be directed between the pains to lie upon the side towards which the head deviates, and when it has reached the required position the patient should turn on her back, lest the head be carried too far, and assume the opposite lateral malposition.
- (β) . Posture in Turning by the Head.—The dorsal recumbent is the most suitable position for the patient when turning by the head is attempted by external or combined manipulations.
- $(\gamma.)$ Turning by the Feet.—The earlier obstetricians when turning the child almost always placed their patients in the knee-head-descending posture, and there may be occasions when this position might be advantageous. The most generally useful posture for the woman during this operation is the left lateral recumbent. Some authors advise the dorsal recumbent position during extraction of the child and in turning when the fetus is in the abdomino-anterior position.
- (b.) Manual Dilatation of the Cervix Uteri.—This is best done while the patient lies on her left side, the operator dilating with his left hand and effecting counter-pressure upon the fundus of the uterus with his right.
- (c.) Extraction of the Placenta.—Whether this operation be performed after abortion or parturition at term, the position of the patient should be the same—the dorsal recumbent, with the knees and shoulders raised. The operator should pass his left hand or part of it into the uterus, while he presses down the fundus with his right.
- (d.) Extraction of the Child by Forceps.—There is great difference of opinion in Europe as to the position in which a woman should be placed during this operation. Here our patients are placed on their left sides; on the Continent they are made to lie upon their backs. It is probable that

both positions have their advantages, the lateral being the better early, and the dorsal late, in the operation. Except for disturbing the patient there can be no reason why both postures should not be successively employed, but by bringing her hips well to the edge of the bed and separating the knees, it will seldom be found necessary during the use of forceps to prescribe any other than the left lateral posture.

The foregoing remarks apply equally well to the operation

of cephalotripsy.

(e.) Craniotomy.—The patient should lie upon her left side during this operation, with her hips projecting slightly over the edge of the bed. This posture, besides being most convenient for the operator, prevents the bed being soiled, as it allows the blood, brain substance, and water injected into the cranial cavity, to flow directly into a basin. This position is also suitable for the use of the perforator and craniotomy forceps.

(f.) Symphyseotomy.—The woman should be placed on her back, with her shoulders low and the pelvis raised. When the patient is in this posture the child gravitates towards the thorax, and the fetal head is thus prevented from pressing

upon the pubes and complicating the operation.

- (g.) Cesarean Section.—The dorsal recumbent, with the shoulders slightly raised, is the most suitable position in which to place the patient during this operation. It is convenient for auscultation and catheterisation of the bladder before the operation, and has none of the disadvantages of the sitting or dorsal reclining postures which have been recommended by some operators. Raising the trunk has been suggested in order to favour the escape of fluid from the abdominal cavity or to prevent its entrance, but the position which accelerates the outflow of fluid has the same influence upon the omentum and intestines, and the escape of these viscera is, even when the patient is recumbent, frequently a source of difficulty and annoyance; besides which the raised position of the head has a tendency to cause faintness.
 - (h.) Postural Treatment of Fetal Asphyxia.—The follow-

ing are the postural methods of inducing respiration in the newly-born fetus:—

- (a.) Sylvester's Method.—Having drawn the tongue forward, place the infant on its back and extend the arms above its head; this expands the chest and produces inspiration. Then bring them down to the sides and compress the thorax to effect expiration. This process should be continued for half an hour at the rate of twenty-five maneuvres a minute.
- (β) . Marshall Hall's Method.—The child is first to be placed on its thoracic and abdominal surfaces, and then rolled over on its side. The first position compresses and the second expands the thorax.
- $(\gamma.)$ Schroeder's Method.—Inspiration and expiration are produced by extending and flexing the spine in the following way:—First support the loins of the fetus with the hand, and allow the head and arms, and pelvis and legs, to fall downward; then turn the child over on its face, and allow it to bend over the abdominal surface, which must be supported by the hand.
- (8.) Schultze's Method is thus described by Schroeder:—The child is so held between the legs of the accoucheur that the thumbs are placed upon the anterior surface of the thorax, the index-finger in the axilla, and the other fingers along the back; the face of the child is turned away from the accoucheur. The child, thus grasped, is then swung upwards, so that the lower end of the trunk turns over towards the accoucheur, and, by bending the trunk in the region of the lumbar vertebræ, the thorax is greatly compressed. By such passive expiratory movements the inspired liquids pass abundantly out of the respiratory openings. A very powerful inspiration is then produced by extending the body of the child by swinging it backwards, so as to return it to its previous position. In this way expiration and inspiration are repeated until they become spontaneous.
- (E.) Howard's Method.—In this method the child is laid upon its back on the left hand of the operator, the ball of whose thumb supports the back and extends the spine,

causing the shoulders to droop and the head to bend downward and backward. The buttocks and thighs are supported by the operator's fingers. The thorax is then completely grasped by the right hand. With this hand, and the other affording counter-pressure, the chest is to be compressed and allowed to expand at the rate of from seven to ten times a minute.

(i.) Auto-transfusion.— This operation has not yet received the attention it deserves; its object is to cause the blood contained in the body to flow in vessels where its presence is necessary to life. This is effected chiefly by raising the limbs and abdomen above the level of the head and chest. Gravitation then acting on the blood, causes it to leave the more elevated and flow to the more dependent parts of the body. This method has been found very efficacious in postpartum hemorrhage, for it not only supplies the vital organs with blood but checks further loss by elevating the pelvis. It has also been found useful in cases of fainting after chloroform and anemia after ovariotomy.

An easy way of practising it is to make an inclined plane by placing a chair with its back sloping upon a bed. Pillows should be arranged on the surface upon which the patient is to rest, and her legs and loins should be lifted up on the inclined plane, so that the body lies straight at an angle of forty-five degrees or more from the horizon. The arms also should be raised and maintained perpendicularly. The influence of gravitation in removing the blood from the raised parts may be assisted by stroking the limbs downwards and kneading the abdomen. Auto-transfusion is so simple an operation and is so easily performed that it ought always to be tried before having recourse to ordinary transfusion, for should the latter operation be required, the time necessarily spent in preparing for it cannot be better employed than in carrying out the foregoing directions. Auto-transfusion should also be used before attempting to rally the patient by excessive quantities of alcohol.

(k.) Transfusion.—During transfusion, whether the mediate or immediate method be employed, the patient should lie on her back with the pelvis and legs raised. If the immediate

plan be adopted, the arm of the recipient should lie parallel with and on a lower level than the arm of the blood donor. In opening the vein of the patient the arm should for the time be allowed to rest lower than the chest. In this way the vessel will be found less collapsed, and consequently more easily discovered and opened.

ON SOME FORMS OF SEVERE MENTAL DISTURBANCE OCCURRING IN CONNEXION WITH CERTAIN NON-PUERPERAL UTERINE DERANGEMENTS.

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AMONGST the various difficulties of diagnosis and prognosis which constantly present themselves to the practising physician there is, perhaps, not one which is calculated to cause him more anxiety than the supervention of serious mental disturbance in a case where its appearance is unlooked for, and apparently unwarranted by the physical aspects of the affection for which he is consulted. This event is fortunately by no means a common one. Yet it is, I think, of sufficiently frequent occurrence in the treatment of the diseases of women to attract more attention than it has as yet received. Of the importance of recognising its true significance, there can be no question, as, if this is overlooked or neglected, the patient may possibly pass into a state of persistent mental aberration, and the uterine derangement being masked by the symptoms of mania, a completely erroneous view of the case may be entertained. The following cases having occurred in my practice within the last five years, I have deemed it useful to record them, with such observations as their course and termination naturally suggested. The exigencies of country practice, long distances and hurried journeys must be answerable for much of the imperfection in the details recorded; while the want of trained intelligence in the relatives of two of the patients, who were the only nurses available, and their

consequent occasional violation of directions, rendered the treatment of those cases in some respects unsatisfactory.

CASE I.—Serious Mental Derangement Supervening on Gradual Suppression of the Menses from Cold, Simulating Typhus Fever—Recovery.

Oct. 25th, 1873.—Miss C. T., aged twenty-eight, farmer's daughter. About five days ago her family noticed that she was rather absent in manner and forgetful, contrary to her usual habit. She became gradually worse, and now she shows a great aversion and will not speak to her friends. Talks a good deal to herself, for the most part nonsense. Sleeps very little at night, and her bowels are confined, with a good deal of borborygmi. Hawks up sputæ often, but has no cough. Pulse somewhat accelerated. Was out driving yesterday, but is in bed to-day. Looks rather wild, but speaks to me sensibly enough. She complains principally of sense of oppression about the epigastrium. catamenial flow has been very scanty at the last two monthly periods, and after the last one she got very ill and had an attack of green vomiting. Her mother tells me that she has noticed the changes lessening for some months, ever since she got a cold by imprudently walking through wet grass in thin shoes. The epiglottis is perfectly insensible to the touch.

To have active colocynth and croton oil aperient pill, and a bromide of potash and hyoscyamus mixture. To have her hair thinned.

Oct. 26th.—Seems quieter to-day, but still talks nonsense, says she has some headache. Bowels well moved after the pill. Did not sleep last night, but had three or four hours sleep this morning. To have tinct. opii, min. xl. in draught at bedtime.

Oct 27th.—Spent for the most part a restless night, frequently getting out of bed. She got into it again when asked to do so, clapping her hands and seeming about to faint. Took little or no nourishment. Slept about three hours this morning. She now lies quietly in the bed unwilling to answer, yet answering to the point, but *shortly*,

when asked a question; no headache. The tongue is clean looking, but the teeth are covered with a brownish pellicle, and the breath has a fever smell, very heavy. Pulse 84; temperature 1002, breathing quiet. When not disturbed her eyelids are kept closed and trembling. The belly is soft, skin inclined to perspire, bowels moved well early this morning, urinary secretion plentiful but heavy with whitish deposit. Her bromide of potash mixture has been omitted since last night. To be resumed.

Oct. 29th.—Passed a quiet night, sleeping a good deal. Took a large quantity of nourishment yesterday and seemed to enjoy it, bowels unmoved since. She perspired profusely this morning. Lies in bed quietly with her eyes open but will only answer in monosyllables, and after a delay, but she is perfectly clear and collected when she does answer. Pulse 90; temperature 100. To continue mixture.

Oct. 30th.—Spent a restless night, refused to take the medicine, said it was poison, and her relatives had not sufficient skill or determination to induce her to take it. Continually wants to get out of bed, and exhibits complete delusions about the locality. Says the battlements are broken down all round her, and is afraid she'll fall over; takes her nourishment well.

Oct. 31st.—Attacked her nurse early this morning and tore her hair; she is now, however, lying quietly on her back and staring thoughtfully before her; wont answer when spoken to. Would not put out her tongue at first, but when ordered to do so, with a determined air, opened her mouth and half put it out very slowly, and then kept her mouth open. She passed in bed under her last night yet she takes her nourishment well. Pulse 106; temperature 1010. Some gurgling on pressure in abdomen and some tympanitis, but muscles of abdomen feel firm and resistent. Tongue rather coated. On turning up the upper lip and gently pressing the triangular process of gum that fits in between the points of exit of any two teeth, blood could be made to exude in a fine stream. The drying of this probably the origin of the pellicle. A practitioner of standing and experience saw the case along with me to-day and in-

timated his decided opinion that it was a case of continued fever, the cerebral symptoms being the ordinary complications of the disease. His diagnosis was supported by the clergyman, also of large experience in fever, and certainly the patient did present a very striking superficial resemblance to a case of typhus fever in an advanced stage. I, however, felt compelled to dissent from this view, and for a time retired from the case. Blistering the head and other measures usual in fever with cerebral complications being resorted to and greatly aggravating the symptoms, a second and fuller consultation resulted in a return to the original view of the case.

Nov. 3rd.—Catamenia appeared slightly yesterday, and she slept last night quietly from nine P.M. until two and again from four to seven in the morning. After an hour's interval she went to sleep again, and slept five hours more. This improvement was however but of a temporary nature, and the symptoms continued without much alteration until

Nov. 8th.—Little sleep at night, a good deal of occasional violence in language and gesticulation, taking plenty of food. Pulse 86, temperature 98. To have one-third of a grain of morphia hypodermically, and fifteen minims of tinct. opii every four hours after, until sleep occurs. When the needle was being inserted under the skin of the forearm she complained that we plunged her leg into hot water.

Nov. 9th.—Did not sleep, crying and talking all through the night. It was suggested to-day at another consultation to give a grain of calomel every third hour and rub mercurial ointment into the axillæ, which was accordingly done for the next few days, but did not seem to affect the case one way or other. To repeat the morphia to-night.

Nov. 10th.—Slept one hour yesterday and two during the night. Getting more and more difficult to manage. Takes her nourishment well. Repeat morphia.

Nov. 11th.—Slept but two hours after the morphia, and, though she dozed a little since, she has had no positive sleep. Temperature 100'3, pulse 88.

Nov. 14th.—Had a purgative draught of castor oil and

turpentine last night, and slept nearly the whole night after it operated. Is a great deal quieter to-day.

Nov. 27th.—Up to this date she seemed on the whole quieter, but to-day she is restless and violent, and when I entered the room started up in bed and assailed me with loud shouts and all the fierce gesticulations of a confirmed maniac. Her mother tells me she tried to make her say her prayers yesterday, and after some trouble partially succeeded. This was the second occasion during the treatment of the case that injudicious attempts to induce mental exertion were followed by renewed severe manifestations of mental disturbance. The relatives had been repeatedly and forcibly cautioned against it, but their treatment of the case was eminently unsatisfactory all through. From this date the violence of her demeanour was such that seclusion became necessary. She was accordingly removed to a private asylum, where, after a short residence under judicious and suitable treatment, she completely recovered, and has since remained well.

The case on the fifth day certainly presented a striking likeness to the twelfth or thirteenth day of bad typhus. The patient lying on her back low down in bed, apparently not to be roused, as she steadfastly declined to take the slightest notice of questioning; the teeth covered with dark brown pellicle, and the breath and indeed the room atmosphere smelling heavily, while the history of the previous violent delirium all night seemed to complete the picture. The capacity for taking food however, the quiet firm pulse, low temperature, and firm resistant feel of the muscles, together with the duration of illness and absence of any skin eruption rendered the diagnosis sufficiently clear. There was no history of insanity in the family.

CASE II.—Slight Mental Disturbance occurring habitually for months at the Menstrual Periods, and assuming at last a grave character—Recovery.

Nov. 18th, 1875.—Miss B. M. S., aged thirty-six, delicate and worn-looking, very small and slightly made. Highly accomplished and continually occupied in artistic pursuits.

For a considerable time past she has felt sore on awaking in the morning as if she had been beaten (a common reflex symptom, according to my experience, in uterine excoriations), and she complained that the clothes were too heavy for her, though she did not feel too warm. She has also been in very low spirits about the times of the menstrual molima, and her sisters have observed that latterly she has been cranky and childish about those times. The catamenia came on five days ago, and she felt so ill that she remained in bed. Her elder sister however did not consider her illness as serious, and expected that she would be up every day. She did not get up however until yesterday for a short time, and when she went to bed in the evening she sent for her sister to ask her did she think she was going mad. She continued to talk most wildly all night, averred that she saw me at her bedroom door, and when I asked how she slept told me she wondered at my asking such a question when I had been there all night. They had given her a small teaspoonful of brandy occasionally, she seemed so weak, with beef-tea and a chop. The changes ceased naturally yesterday. She said when I placed the thermometer in the axilla that she felt the electricity go through her. No tenderness of belly, tongue rather yellowish, complexion muddy. 110, weak. Temperature 101. Did not sleep at all during the night. To have three grains each of camphor, hops, and hyoscyamus every four hours, and to stop the brandy, as she thought it made her head bad, giving instead one tablespoonful of port wine in water every four hours. Bowels acted on by medicine yesterday.

Evening, 7.30.—Has become very violent during the day, considerable force being necessary to keep her in bed. She has bent the iron curtain-rod of her bed, fully an inch in diameter, down six or seven inches, and she is so feeble and fragile that the strength exerted astonishes her attendants. Has refused to take nourishment since four P.M., and says she is dead, and that we should leave the room. Puts out her tongue when told to do so, and seems impressed by a decided manner. To have fifteen minims of tinct. opii in draught at eight P.M., and again at one A.M., if not asleep.

Nov. 19th, 9 A.M.—No better; very violent all night; no inclination to sleep at all. Gave one-third of a grain of morphia subcutaneously. Catamenia flowing again to-day.

2 P.M.—No rest at all, even more violent than before, though she seems for a moment as if she would sleep, and then starts up worse than ever. To have the sixteenth of a grain of tartar emetic ever second hour.

8 P.M.—Still violent, no sleep. Vomited once after second dose of the mixture. Takes nourishment well. Full of delusions. Gave third of a grain of morphia subcutaneously, and if she is not asleep by one oclock, a starch enema, with forty-five minims of tinct. opii, to be administered, and repeated in four hours if necessary.

Nov. 20th.—Slept for three or four hours after the morphia last night, and woke in a dreadful state, and for the next two or three hours displayed great violence, screaming at the top of her voice, biting her tongue, and when the nurse tried to prevent her, biting the nurse's finger. She got the enema at six, and since then she has been quiet, though she did not sleep. Changes have stopped this morning. Speaks now quite rationally to me, and says she would like a cup of tea. She asked for lemonade last night, and when she had drunk it off, smashed the vessel against the wall, rather narrowly missing her sister. Bowels unmoved, urinary secretion natural. Tongue very dry, red and rough in centre, brown at sides. To have scruple doses of bromide of potash with ergot and Hoffman's liquor every four hours. Omit the opium.

Evening.—Better and quieter; has occasional glimpses of the fact that she has been misbehaving herself and talking nonsense. Complains greatly of the soreness of her tongue where she bit it. Took her nourishment pretty well at intervals, and though she wanders occasionally, did not assault any one to-day. Bowels unmoved; pulse 80. To have ten grains of calomel, and, when it acts, another opiate enema.

Nov. 21st.—Was quiet all night, and slept occasionally. Nearly quite sensible this morning, though she still wanders occasionally. As the bowels had not acted, to have a castor-oil draught. No talking about her illness to be

allowed. To be told she has had congestion of the brain, and is recovering.

Evening.—Quiet all day, sleeping at intervals; bowels acted on by the medicine. Pulse 88. Some visitors were very injudiciously allowed to see her to-day, and she has been wandering a little since, though during my visit her intelligence seemed perfect. Forehead a little hot. Ordered hot stupes to forehead, and continue the bromide.

Nov. 22nd.—Very good night, sleeping well. She complains greatly this morning of the soreness of her frame, resulting from the violent exertion she underwent during her attack. Her wandering is reduced to a minimum; indeed, as her sister expresses it, she only occasionally says something that might be deemed a little silly.

Nov. 23rd.—Quiet night, slept well; all traces of mental disturbance disappeared this morning. From this date she rapidly and completely recovered, though at the next menstrual period she was very nervous in anticipation of another attack. Nightly warm hip-baths for the week preceding, conjoined with small doses of aconite and good doses of the bromide, seemed to prevent any recurrence of the trouble, and her menstrual periods have since remained free from any trace of her former mental disturbances.

The contrast between this and the previous case, as far as good nursing and obedience to orders, was very marked, and to the careful and exact way in which every direction was carried out (with the single exception of the visitors) the favourable result must be in some measure attributed. The extremely light, small, and fragile frame of the patient, more like a little girl of ten or twelve than a woman approaching mature age, caused the doses prescribed in the first instance to be smaller than usual. The abnormal strength displayed in the height of her delirium was very remarkable, requiring the united exertions of two strong women to restrain her. There was no history of insanity in the family; but her mother died of phthisis in middle age, two of her brothers of some acute head affection in boyhood, and her father, though attaining old age, suffered for some years from partial paralysis.

CASE III.—Extensive Uterine Excoriations, accompanied by various Reflex Nervous Sensations, finally culminating in a well-marked Attack of Mania.—Recovery.

April 3rd, 1875.—Mrs. M. S., farmer's wife, aged thirty. Fourth or fifth child born in last November. Got ill in December with bad toothache and cold, which kept her in bed on and off for three weeks. Since then her life has been one of continual suffering. Her chief complaint is referable to attacks of flatulence, to which she is a victim. They commence in the abdomen with what she calls a twisting pain, and after this has continued some time it is succeeded by violent eructations of wind until she is quite exhausted. She complains also of creeping feelings in her head, and she has a sensation as if something wet with cold water was lying on the vertex. Her palms are mostly sweating, even when her arms are cold. Her forearm is sometimes quite hot and her arm quite cold, and vice versa. She often breaks out into a general perspiration, and she is troubled with frequent palpitations. Chest sounds normal. Some tenderness on deep pressure in both ovarian regions, and considerable numbness in right leg, which goes up to the hip, and her back is constantly weak. Some leucorrhœa. Uterus feels rather large, os patulous and lips rough. Has little appetite, and occasionally throws up some sour water. Speculum shows large raspberry excoriations on both lips, stretching up into the canal. Touched with strong nitric acid, and prescribed a tonic mixture containing liq. opii sed. to meet the pyrosis.

May 8th.—Says she is no better, but her strength has decidedly increased, as she is now able to go out. Her head sings a good deal, and she has little pricking pains about her heart. Excoriations still prominent on uterine lips. Touched again.

May 22nd.—A good deal of improvement has taken place in her appetite and strength, but she says her eyes feel as if there was something pulling at them, and she imagines there is some substance glittering before them which frequently compels her to close the lids. Her head, too, is very heavy and sick.

May 29th.—Had a good deal of noise in her head since, and queer, indescribable sensations in her body. She also complains of tingling and numbness in her left leg and hip. To take scruple doses of bromide of potash, with valerian.

June 15th.—The first dose of the medicine, she said, sickened her dreadfully, and she could not be prevailed on to try another. She even fancied it sickened her to go near the place where it was kept. She gradually became more and more odd and fanciful, until at length decided symptoms of mental aberration showed themselves. To-day she lies in bed, her face very red, and her eyes slightly infected, answering nothing when questioned, but looking as if she was anxious to speak, but unable to command her ideas. Pulse 80, soft; puts out her tongue in a hesitating manner. Shortly after my visit she became immensely excited, singing and shouting. She did not, however, offer violence to any one.

June 20th.—Had frequent violent fits of excitement since, talking nonsense and singing. Bowels confined; skin cool; pulse 100. To have ten grains of calomel.

June 23rd.—Bowels moved after the powder; more sensible for the past two days; spoke to and recognised her children.

June 26th.—Much quieter and better; slept eight hours quietly last night. It is, however, only possible to administer medicine that may be concealed in her food; the treatment has, therefore, been limited to a few grains of calomel, with an occasional dose of antimonial powder.

July 3rd.—Getting more sensible every day since. When she raves or wanders now she says she knows she is talking nonsense, but feels she can't help it.

Aug. 7th.—Up and resuming her household duties, though she cannot be pronounced quite well. I did not get any opportunity of further ascertaining the condition of the uterus, but from the absence of all the reflex symptoms with which she was formerly troubled, and which commonly persist as long as the excoriations are unhealed, I assume

considerable improvement, if not complete recovery, had occurred.

This case, owing to the length to which it ran, and its distance from my residence, was both imperfectly observed and recorded. The treatment was almost nil. There was absolutely no nursing available, so that occasional aperients administered in the food were the only medicines possible to give. The family history, as far as that could be ascertained, which was not very far, was free from insanity; but a sister of the patient had at one time suffered an attack of puerperal mania, the mental disorder persisting some months before recovery occurred.

CASE IV.—Profound and persistent Low Spirits, with various Nervous Disturbances and Continual Apprehension of the Loss of Reason, at once disappearing on the cure of a large Double Uterine Excoriation.

Jan. 24th, 1876.—Mrs. H. W. P., aged twenty-six, eldest child two years old; but six weeks or two months since this lady had a premature labour, when she was delivered of a fœtus between the fifth and sixth month. She consulted me principally from the state of her mind. She is in continual dread and apprehension of something happening to her, or of some secret, she knows not what, being discovered about her. She is troubled with strange thoughts and dreams, and she has occasionally a queer sensation in her forehead. She cannot sleep at night, so strongly is she possessed with the idea that there is somebody secreted in the house to murder her, and she is in continual dread of death. She fears she will go mad. The bowels are confined, appetite bad. To have bromide of potash and ergot mixture, with assafœtida, colocynth, and aloes pills.

Feb. 14th.—Got some more sleep, and bowels are acting better, but last night she did not sleep at all, and her mind, she says, is passing out of her control. To have pills containing three grains each of camphor, hops, and hyoscyamus at bedtime, and continue the bromide.

Feb. 17th.—Better; slept every night since, but her mind, though not so disturbed, is still a trouble to her.

Feb. 19th.—Slept none last night, and is very restless today, continually moving about from place to place. To renew sedative pills.

Feb. 21st.—Slept after the pills, but has a queer sense of confusion in her forehead, and is very much afraid she'll go mad. To continue the treatment.

March 24th.—Little alteration since. Increase of nervous symptoms, apparently controlled by increasing the doses of the bromide and sedative pills. Great tenderness on pressure in left ovarian region, and numbness down the left leg.

April 7th.—I examined her to-day for the first time with speculum, and found what I had before suspected, extensive excoriations on both uterine lips, and thick glairy discharge flowing down os. Touched the parts well with strong nitric acid,

April 17th.—Excoriations angry looking still at edges, and very ready to bleed. She is still very troubled in her mind, but she sleeps pretty well.

May 1st.—Sleeps well, but is still uneasy in her mind; cannot get it out of her head that she is going mad. Appetite is however much improved. Excoriations still angry and red.

May 15th.—Touched again with the acid.

June 2nd.→Better; mind much easier, excoriations healing. To continue bromide and ergot mixture. Touched lightly.

Aug. 25th.—Better still; sleeps well, eats well, and feels strong in every way. All mental trouble has vanished. Excoriations healed. She has since remained perfectly well.

In this last case I could not succeed in getting an examination sooner. Had I done so, I do not doubt the improvement would have been more rapid. In the first three cases various preparations of opium were given, in the first two with the object of calming the restlessness and procuring sleep, but in almost every instance this object was not satisfactorily attained. Even if the opium or morphia seemed, as it were, forcibly to still the restlessness and compel sleep for awhile, the symptoms recurred with greater violence when the

effect of the narcotic had passed away. In one instance, where free purgation had occurred immediately previous to its administration, an opiate enema seemed to act well, but its general result was disappointing. Free purgation had, however, an excellent though temporary effect; and an oil and turpentine draught was followed by almost the only quiet night's rest procured during the treatment of Case I. Something of this may have been due perhaps to the turpentine, which often exhibits excellent sedative properties in other cases of brain irritation. The bromide of potash, however, in scruple doses, combined with ergot, hyoscyamus or Hoffman's liquor, was extremely effective. In conjunction with three-grain doses of hops, camphor, and hyoscyamus repeated every four hours, it rarely failed to give relief, calm mental trouble, and procure sleep; and when it did not act at once in a markedly beneficial manner, it never seemed, like opium, to aggravate the symptoms. In the last case those remedies were used from the very commencement of the treatment; and though they failed to give permanent relief until the excoriations were healed, still they had a powerful effect in mitigating the symptoms, and thus conducing to the ultimately successful issue. In every case stimulants were as soon as possible interdicted, being gradually but speedily reduced and abandoned. They always seemed to do harm. In none of the cases did the pulse or temperature much exceed 101, and they rarely reached that figure, the pulse being mostly between 80 and 90, and the temperature between 98° and 99° F.

NOTES ON A CASE OF HYDRAMNIOS.*

By G. DE GORREQUER GRIFFITH, L.R.C.P.

Senior Physician to the Hospital for Women and Children, Vincent Square; Consulting Physician Accoucheur to St. Saviour's Maternity.

ELLEN KELLY, aged thirty-nine or forty, was admitted into the Hospital for Women and Children, Vincent Square, on October 24th, 1874.

^{*} Read at the Harveian Society, Session 1877-78.

On admission, the face was pale, pinched, drawn, haggard, and thin; she was also thin in the arms and in the body, except in the breasts which were well developed, being in that condition which we should expect to coexist with early pregnancy.

She states she was married in February last, having been previously a widow for six years; that her first husband had died in India, and that she had not seen him since the birth of her only child, a boy aged nine; that her health had been generally good during widowhood; that the menses had been mostly regular and natural, up to the 20th of June last —when they ceased—from which time she had not felt well, her appetite having almost altogether failed her; that she had, however, continued her housework till about three weeks before entering the hospital, when she had been seized with diarrhœa and pains in the abdomen lasting for about twentyfour hours; after which she rapidly increased in size around the waist (the length of a forefinger in five days), persistent pain in the back and stomach coming on at the same time; she also noticed that she passed very little water, only about half a pint in the twenty-four hours.

Sleep has since then been disturbed by pain, which she described "as of pulling and tearing in the sides" of abdomen, whence it spreads to the back. She thought that about five weeks before entering the hospital she strained herself in trying to catch a tub of water as it slipped from where she was washing, and, on the very day week after this accident, she perceived that she had increased so much in size as to be unable to do her weekly washing. There is no history of syphilis.

Since her admission, the pain has always been worse at night, coming on in fits, lasting from five minutes to half an hour, and of a bearing-down character, beginning in the back and stomach, and extending to the knees. Yet her spirits are good and her appetite always fair; bowels costive; water of a more healthy colour, and passed more frequently.

The easiest posture now is on the back with the legs drawn up, and the body raised, so that at the seat of flexure of the body an obtuse angle is formed; sometimes she turns a little on one side for further ease, when she gets cramped as it were by the dorsal attitude; but she cannot lie quite down on the back for any length of time, owing to the difficulty of breathing produced by the enlargement then gravitating upwards.

The abdomen, though less tender than before admission, is greatly enlarged, tense, and so elastic as to be resilient: it is globular, the surface smooth, not in any way irregular or modulated—it is dull on percussion anteriorly and inferiorly as far down as the pubis; but superiorly there is a line of clearness corresponding no doubt to the pushed up intestines, and laterally also there is clearness at a space corresponding to the costo-iliac intervals. The uterus cannot be distinctly defined, nor can fluctuation be determined for certain. skin is cool, nor are there any feverish symptoms; pulse is small and weak. When I first saw her, and felt the abdomen, I thought she might be labouring under ovarian unilocular dropsy; but on examination per vaginam, I found the os closed, soft, and velvet-like, the cervix partially taken up, and the entire cavity of the uterus evidently enlarged, though it was impossible to say determinately to what size, as, pregnancy being presumed to exist, internal exploration by means of the sound was out of the question.

Examination per rectum would almost lead one to suppose that there may be a fibrous tumour of the uterus; or a fibroid enlargement of that organ; or ovarian dropsy coupled with pregnancy, such a peculiar feel was presented to the finger by the enlargement in the abdomen.

I cannot detect any disease of the liver, spleen, or kidneys; nor any mal-condition of urine, except as regards the quantity, which was smaller in complement than what is ordinarily passed.

The patient considers she is not pregnant, so different is she in every way, to what she had been in her previous gestation. She has felt no fœtal movements; and to use her own expression, "If I am in the family way, I am very much bigger than I ought to be, or very much farther gone than I think; and I have grown larger more rapidly than I ought."

The thighs and legs, though œdematous, are not much enlarged; but walking is rendered difficult, because of the existing œdema, and because of the weight and size of the abdominal enlargement, and the consequent dyspnæa.

On Oct. 27th, 1874, she went to see Dr. Routh, whose

letter to me I shall copy verbatim :-

"This case is a puzzle! Breasts' areolæ very large, but pimples thereon imperfectly developed. Abdomen contains a tumour, reaching to ensiform cartilage, harder than occurs in pregnancy; obscure souffle, not tubular; no fœtal sounds, or double cardiac sound. Vagina and uterus not blue, but os large, capacious, and velvety, feeling more like that of advanced pregnancy, is patent, admitting the finger. Ballottement obscure, could not be very accurately made out, owing to the pain experienced on examination and its production of a muco-blood discharge; great pain on pressure of the uterus. I cannot yet diagnose certainly. However, I should say pregnancy, possibly with ovarian disease and rheumatism of uterus. This last I should treat with alkalies, pot. iod. in five gr. doses, vini colch. m v. ter die, and I should like to see her again in a few days."

On Nov. 9th, Dr. Routh again saw her, and wrote to me: "The abdominal sounds, except the mother's cardiac sounds, are not heard to-day. There is less fluctuation, and much less rheumatism of the uterus; but I have distinctly felt weak ballottement. Go on with treatment."

For pain in abdomen there were prescribed one dr. tr. aconite, one dr. tr. opium to one-half oz. of warm water, as fomentation; and internally one-half gr. of opium gave some ease.

Oct. 28th.—Bad night, which she ascribed to her having driven to Dr. Routh's. The usual pains; better, however, in the day.

Oct. 29th.—Continual desire to pass water, but not much pain all day.

Oct. 30th.—Better night, though the pain in the back was severe at times; had aperient in the morning, which acted at night.

Oct. 31st.—Bowels acted freely. Complains of much

oppression in breathing in the morning from increased size; violent pain in the back at night, extending to right knee.

Nov. 1st.—Better night; usual pains less, though there is soreness of the breasts; used enema in the morning, which gave much pain to back; bowels, however, freely acted on; appetite and spirits good.

Nov. 2nd.—Less pain during the night; size decreased. Went to Dr. Routh for a second time. Much pain in the back after journey in omnibus.

Nov. 3rd.—Pain in the back continued; gave aperient, which acted in the evening; pain better.

Nov. 4th.—Walked to Dr. Griffith's house, and was glad to get to bed after the journey, as she is easier in the recumbent posture. Took castor oil, after which sickness and heartburn followed; no relief of the bowels was obtained.

Nov. 5th.—Better night. A quantity of water was passed, a pint and half in twenty-four hours. Had castor oil morning and night; bowels acted, pains less.

Nov. 6th.—Bad, restless night; size increased. Gave pulv. jalap. co.; she felt sick after it, but it operated three times; better in the afternoon. In the evening violent pains, like those of labour, in the back, extending to abdomen and into the legs; relieved by aperient powders. Appetite and spirits continue good.

Nov. 7th.—Very bad night; severe pains in the back, abdomen, and legs, coming on exactly as if of true labour. Took during the night chloral mixture, and dozed till six A.M. The pains better in the day, and worse in the evening and night. Turpentine and hot-water fomentations applied to the back, aconite and laudanum to abdomen; bowels not relieved; size increased.

Nov. 8th.—Usual pains, severe in the night, relieved by chloral; pains higher in the back towards the evening, relieved by rubbing with the turpentine and oil. Bad headache; aconite and laudanum at night to abdomen; bowels acted.

Nov. 9th.—Very bad night; hardly any sleep; chloral had little effect; the water seems to rise higher, and the abdomen is so enormously enlarged as to be distended nearly to bursting;

distinct cracks of the integument have taken place, such as occur in advanced pregnancy, and leave the white cicatrices found in the skin after delivery; breathing more oppressed than heretofore; easier during the day; at two P.M., violent bearing-down pains came on in the back and abdomen; thought to be in labour. Dr. Griffith, however, came, and, having examined, found no sign of it, and attributed it to her journey to Dr. Routh's; gave thirty drops laudanum, which procured sleep.

Nov. 10th.—Better night than could have been expected, waking only occasionally with pain in the left side; aperient powder acted twice; pain easier all day, returning at night; gave thirty drops laudanum at 10 P.M.

Nov. 11th.—Slept better; still there are pains in the left

side; oppressed breathing; other pains easier.

Drs. Routh, Folwell, and Griffith met in consultation in the evening, and agreed as to her being pregnant. Gave thirty drops of laudanum, after which she had a comfortable night.

Nov. 12th.—Pains all easier during the day; about 5.30 P.M., as she moved in bed to take her tea, the waters broke, flowed freely and abundantly for about three hours, saturating folded sheets and blankets, and afterwards ceased gradually. Drs. Griffith and Folwell pronounced that it might be labour beginning; gave forty drops of laudanum. Slight labour pains came on about 10 P.M., and continued at intervals during the night; at 4.20 A.M. gave forty drops of laudanum and half ounce of brandy in a little water; and at 8 A.M., on Nov. 13th, more severe pains came on, producing an immense gush of water, and the birth, at 8.30, of premature twin female children, still-born. One fœtus must have been dead some time, as decomposition was far advanced; the other must have died more recently, since it was quite fresh. They were both of about the same size, allowing for the difference in the period of death, and both, I should say, of the same age. It occurred to me the death of the second was in part due to the fœtid liquor amnii consequent on the death and putrescence of the first. The placenta, which I removed immediately after the children had been expelled,

was really two placentæ in one, and was in a state of extreme congestion, large and flabby, and exhibiting in different parts the appearances usually ascribed to fatty degeneration, the funes being inserted at separate points in the placentæ, and running separately for their entire length. Immediately after delivery she had forty drops of liquor ergotæ and twenty drops of sal volatile; seemed easy and free from pain; soon eat a good breakfast; the dose of medicines was repeated after an hour; she passed water freely, continued comfortable, eat a good dinner, slept in the afternoon, enjoyed a good tea and supper, and had a comfortable night.

Nov. 14th.—There were some slight after-pains during the day, though not much discharge; no soreness of breasts; abdomen natural size; appetite and spirits good.

Writing on this subject in *Obstetrical Transactions*, vol. xi. page 40, Dr. Graily Hewitt says:—"As regards the pathology of this *rare* disease I have but little to say; so far as I can make out from reference, a satisfactory explanation has not yet been come to. The sudden and rapid increase in size was due probably to the death of the fœtus, but how I cannot say, perhaps by the law of endosmosis and exosmosis, or might it not depend upon an impoverished condition of the blood, or a dropsical predisposition in the patient herself? or perhaps both combined?"

The increased size noticed by his patient in the early months of her pregnancy Dr. G. Hewitt attributes to the double feetation.

M. Marcin considers the affection to be the result of inflammation. Dr. Robert Lee enumerates seven cases in the majority of which the enlargement originated at about the seventh month, one in third month, miscarriage or premature labour having to be induced three or four weeks after the dropsy set in. In five the fœtus was dead, or very feeble, and some malformation in it or its envelopes. In two there were inflammatory symptoms.

Dr. David W. Davis records three cases. One was at seventh month, accompanied with a certain amount of febrile symptoms. The waters were allowed to drain away gradually

to the extent of over fourteen pounds, the patient being delivered of a puny feeble seven months' child.

In the second case the sudden swelling came on at the fifth month, shortly after a fright; great amount of water discharged. Twins born.

In the third case at the fourth month the waters suddenly increased after a fall or blow on abdomen, subsequently a long walk; great quantity of waters. Birth of twins at sixth month.—(Graily Hewitt, vol. xi. page 44, Obs. Trans.).

Dr. Rasch, in 1870 (vol. xi. page 55, Obs. Trans.), exhibited a case of this affection "in which one of the twins had died from twisting of the cord close to the umbilicus. The sac of the dead fœtus was considerably larger than that of the living." Dr. G. Hewitt on that occasion remarked that "this case raised the interesting question as to the influence of death of one fœtus in cases of twins in producing dropsy of amnion." In his case the sac of the living fœtus was the larger.

In passing I may say that Dr. Brunton in the same year (vol xi. page 6) raises the question whether children (twins) of the same sex do not always, or in the majority of instances, have but one sac, while of the opposite sex two sacs will be found, and then draws an inference from his premises "that probably the ova cast off from each ovarium are alternately male and female—i.e., that each ovary casts off at one and the same time a male or each a female ovum." His conclusion is that if a male ovum comes down from each ovary at one and the same time, conception taking place, we have twin males and two sacs; so if female ova. But if two ova come down from same ovary, either together or immediately following one another, and conception takes place, we have twins of opposite sexes and one sac. There is, he says, no case of twins of same sex in one bag of membranes.

Before closing this paper I would mention that Dr. Gervis has recently contributed to the St. Thomas's Hospital Reports a valuable article on the Etiology of Hydramnios, so recently that I have thought it better to refer my hearers and readers to his essay than quote it in part or in full, or in any way myself theorise upon the etiology of this affection.

FŒTAL MORTALITY IN OBSTETRIC PRACTICE.

By A. L. GALABIN, M.A., M.D., F.R.C.P.

Assistant Obstetric Physician and Joint Lecturer on Midwifery to Guy's Hospital.

THE article by Dr. G. Hamilton on the use of forceps in tedious labours, published in the June number of the OBSTETRICAL JOURNAL, is likely to be read with much interest, especially in reference to the series of cases reported in it, which had not previously been published. Unlike Dr. Hamilton's previous series of cases, the one now recorded shows not only excellent results to the children. but a favourable one to the mothers, no death having occurred in 167 consecutive cases. This number by itself is indeed too small to allow any safe inference to be drawn from it, but the total result as to maternal deaths now given by Dr. Hamilton for 1371 cases appears considerably more favourable than that of his first 300 cases as stated in Table II. of my paper in the OBSTETRICAL JOURNAL for December, 1877, which Dr. Hamilton has quoted. It may therefore be of interest to calculate from the data now given the ratios which may be compared with the others recorded in that table. The total maternal deaths per 1000 in the 1371 cases are 7.3, a number which is to be compared with 4.4 per 1000 in 23,591 cases in the Guy's Charity; 3.5 per 1000 in 5575 cases in the St. George's Charity; 2.1 per 1000 in 4377 cases in the Eastern Division of the Royal Maternity Charity; 5.6 per 1000 in 3847 cases in the practice of the late Dr. Joseph Clarke of Dublin, and 1.6 per 1000 in 1250 cases in the practice of Dr. Cooper Rose; all instances in which the forceps-rate was a very low one, especially in the case of Dr. Joseph Clarke, who did not use the instrument even once.

Dr. Hamilton, in his article, remarks upon his results as regards the mothers:—"This is certainly very different from Dr. Galabin's Table II., where I am debited with a maternal loss at the rate of 48 per 1000." Dr. Hamilton has quoted this number not from the line giving total maternal deaths

per 1000, but from that giving the maternal deaths per 1000 after delivery by forceps in tedious or difficult labour. This ratio, as calculated from the series of 300 cases, was correctly given as 48.7; on the whole 1371 cases, it becomes 21'0 per 1000. The ratio, however, which appeared to me specially to be rather high in Dr. Hamilton's case, and to be likely to lead the reader to suspect that his practice of frequent and early interference might possibly not tend so strongly as he himself supposed to the saving of maternal lives, was the ratio of maternal deaths after delivery by forceps in tedious or difficult labour per 1000 deliveries. On the series of 300 cases this was 6.6; on the whole 1371 cases it becomes 2.9, and therefore appears much more favourably than before. This number has, however, to be compared with 0.016 in the Guy's Charity, 0.0 in the St. George's Charity, and 0.0 in the practice of Dr. Cooper Rose, among the statistics in which the forceps-rate was very low, the number not being stated in the case of the Royal Maternity Charity.

Considering the favourable character of the child-bearing population in the district where Dr. Hamilton practises, as described by himself in his last paper, it may still, I think, be justly said, notwithstanding the improved aspect of the statistics as regards maternal mortality, that "the figures fail to prove that so frequent and early a use of the forceps diminishes the risk to the mothers, or even that it does not considerably increase it." Nevertheless I am far from asserting that the statistics from a limited number of cases can be regarded as proving that such a practice does considerably increase the maternal mortality.

My chief reason for recurring briefly, at the present time, to the subject of fœtal mortality is the conclusion drawn by Dr. Hamilton as to the improvement effected of late years, in which he assumes that, previous to 1852, the fœtal mortality was nearly twenty-five per cent. (!), while, in more recent statistics, it is between four and five per cent. Hence he infers that, taking the gain at only fifteen per cent., "to be upon sure ground," and leaving the rest, say, for non-viable

children, the apparent saving in modern practice is at the rate of 1,500,000 fœtal lives every ten years. It appears to me that Dr. Hamilton has inadvertently misinterpreted the statement in the review of Dr. Murphy's "Principles and Practice of Midwifery," and has so been led to exaggerate enormously, as I cannot but think, the saving of fœtal life in modern practice.

In the review of Dr. Murphy's work in the *British and Foreign Medico-Chirurgical Review*, for October, 1852, vol. x. p. 422, is the following passage:—"In 75,911 cases of midwifery occurring in British practice, there were 138 forceps cases, and in 35 of these, or 1 in every 4, the child was still-born."

* * * * * *

"From these tables" (those of Dr. Collins's practice at the Rotunda Hospital), "it appears that of 430 cases in which labour lasted or exceeded twenty-four hours, 324 were delivered without assistance, the children being lost in 61 cases, or about 1 in 5. Among the 5699 cases that fell under Dr. Murphy's own care, 218 were similarly protracted, and 175 of the number were delivered naturally—41 children, or 1 in 4 nearly, being still-born."

It is clear from this passage that the estimate of twenty-five per cent. of still-births applies to forceps deliveries, and to labours completed naturally but protracted as much as twenty-four hours, and that not a word is said as to the total rate of still-births in the whole number of deliveries. The percentage of still-births in forceps deliveries is, of course, always high, when the use of forceps is reserved for difficult cases. Thus in the 23,591 cases in the Guy's Charity it was 23'3 per cent., or nearly as high as in the statistics given by Dr. Murphy, though the total rate of still-births was only 4'08 per cent., and that of still-births in vertex presentations, including putrid and premature children, only 2'7 per cent. It is probable that a similar relation may have held in the statistics given by Dr. Murphy.

That the natural rate of still-births, even with an extremely sparing use of forceps, is nothing approaching to twenty-five

per cent., is demonstrated by the results attained in the Guy's Charity with a forceps-rate of only 5.1 per 1000. small a ratio that, even if the whole of the children delivered alive by forceps in tedious or difficult labour had been lost, the total number of still-births would have been raised only to 4.46 per cent. and that of still-births in vertex presentations to 3.08 per cent. A similar conclusion appears still more decisively from the results of Dr. Joseph Clarke of Dublin, who, not using forceps once, and the vectis only once, in 3847 labours, had a total rate of still-births of only 3.2 per cent., and one of only 0.70 per cent. excluding premature and decomposed children, this last ratio being nearly as good as that of Dr. Hamilton himself. The same may also be inferred from the statistics of the Rotunda Hospital, the results of Dr. G. Johnston, with a forceps-rate of 96.4 per 1000, showing an improvement of only 0.4 per cent. in the total rate of still-births over those of Dr. Collins, between 1826 and 1833, with a forceps-rate of only 1.7 per 1000.

With regard to Dr. Hamilton's mode of reckoning the number of still-births, he points out that in my previous article I had inadvertently stated that he included only vertex presentations, but that this was quite a mistake, all presentations being included. I am therefore the more glad that Dr. Hamilton has himself explained his own mode of reckoning in the OBSTETRICAL JOURNAL. I was led to my mistaken conclusion from the fact that in the article in the British and Foreign Medico-Chirurgical Review for April, 1853, recording the first series of 300 cases, after it has been mentioned that there was one still-birth in a case of breechpresentation (Op. cit. p. 512), the following passage occurs (p. 515): "I go back to my 318th labour and 44th forceps case before I meet with a still-born child; and, again, even this does not give the risk to the child as a consequence of the application of the forceps, for the head in the instance referred to was so enormous that I never could get them fairly applied. I therefore turned the child, and tried, ineffectually, to deliver in this way. To accomplish delivery the perforator had to be used." I had also understood that

the series of 731 successive cases, "without any fætal mortality," published in 1861, was inclusive of the first series of 300 cases published in 1853. It was first described in the following passage, in which, after referring to the series of 300 cases, Dr. Hamilton says:—"At that time the numbers were still being added to; and I now think it interesting, as connected with this practice, to state that the successive deliveries continued to go on until the numbers attained were 731 children delivered successfully, not one of which was still-born."—(Edinburgh Medical Journal, October, 1861, p. 317.) In his last article also Dr. Hamilton speaks of the series of 731 successive cases as the first series of his statistics.

It still appears to me to detract much from the value of Dr. Hamilton's statistics that he should not have kept a record of the total number of still-births, according to the usual mode of reckoning, including putrid children and premature children over six months. This might have been given side by side with the number reckoned according to Dr. Hamilton's own method, and would then have allowed a comparison with the results given in other statistics, which is now impossible, except as regards the first series of 300 cases.

It is somewhat remarkable that Dr. Dunster, Professor in the University of Michigan, in the article which Dr. Hamilton so highly praises, quotes no American statistics whatever in favour of his plea for the more frequent use of forceps in abbreviating labour, but bases his argument solely upon the results of the British authorities—Dr. G. Hamilton, Dr. Harper, Dr. Hardie, and Dr. G. Johnston, and upon the statistics of the Rotunda Hospital as interpreted by Dr. Kidd. It is on account of this widespread fame of Dr. Hamilton's statistics, and from the prominence which has been given to them by Dr. Playfair, that it appears desirable that their absolute and relative significance should be carefully estimated.

With regard to the statistics of the Rotunda Hospital, I think it will be impossible for any one to urge that the method of comparison adopted by Dr. Kidd in his Annual Address to the Dublin Obstetrical Society, in 1872, is not an absolutely

fallacious one, as I endeavoured to show it to be in my former article. Dr. Dunster was probably unaware that the enormous increase in the forceps-rate at that hospital from 1'7 per 1000 in 1826–33 to 96'4 per 1000 in 1868–75 had improved the total rate of still-births by only 0'4 per cent., and that, from whatever cause, the total maternal mortality had at the same time become very nearly doubled, having risen from 9'7 to 19'3 per 1000.

I am far from under-estimating the value, both for the interest of the mother and the fœtus, of a moderately frequent and early use of forceps, as compared with the dread in which that instrument was formerly held. It may be also that many practitioners are still too sparing in its use. I confess, however, that I have not myself in consulting practice found reason to think that this is at all generally the case. I am rather disposed to believe that in the present day there is some danger in the other direction, and that, after a tedious first stage of labour, while there is yet no notable elevation of pulse or sign of nerve distress, forceps are sometimes used, when a little longer patience might have been salutary.

I think it important therefore that a tendency which might prove injurious should not be encouraged by an unsound interpretation of statistics, and that it should not be imagined by any one that any difference in the use of forceps could possibly effect a saving of fœtal life of anything approaching to fifteen per cent. From the statistics taken from a great variety of sources, and tabulated in my former article, it did not appear that the widest difference in the number of forceps cases, even including Dr. Hamilton's own results, made a difference to fœtal mortality of more than about one-half per cent., while in several important instances no gain at all was apparent from the more frequent instrumental interference.

Abstracts of Societics' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, Wednesday, June 5th, 1878.

DR. CHARLES WEST, President, in the Chair.

Specimen of Extra-Uterine Fætation.

Dr. Haves showed the specimen from the case of extra-uterine feetation of which he had given particulars at the last meeting. It consisted of the uterus and appendages, with a smooth-walled sac at the extremity of the Fallopian tube. The evidence was not complete, since no feetus could be found. A large quantity of clot had been effused, and had become encysted with false membrane. The special point of interest was that death did not, as usual, follow shortly upon the rupture of the cyst, but was delayed for some days. A true corpus luteum was found in the ovary, on the same side as the sac, but could not now be recognised in the specimen.

Dicephalous Monster.

Dr. Wiltshire exhibited on behalf of Dr. D. C. MacCallum, of Montreal, two drawings of a case of conjoined twins, which had been brought to Montreal for exhibition in April last. The description sent with the drawings stated that the case belonged to St. Hilaire's class of Monstres doubles; Famille-Sysomiens; Genre-Psodyme, and to Dr. W. Playfair's division, dicephalous monsters. Both the children were bright and intelligent, and perfectly developed from the head as far as the abdomen. The union between them commenced at the lower part of the thorax of each, below which point they presented the appearance of one female child. There was, in fact, but one abdomen, one navel, a genital fissure, with the external organs of generation of the female, and two inferior extremities. The spinal columns were distinct, appearing to meet at a pelvis common to both. From near the extremity of each spine a fissure extended downwards and inwards, meeting its fellow of the opposite side at the cleft between the buttocks near the anus, and including a somewhat elevated soft fleshy mass. From the centre of this mass a rudimentary limb projected. It measured five inches in length, was provided with a joint, and tapered to a fine point, which was furnished with a distinct nail. Neither the respirations nor the pulses of the children were synchronous, and Dr. MacCallum concluded that their spinal, respiratory, circulatory, and digestive systems were quite distinct. Hunger was not felt at the same time by the two children. When one cried, contraction took place in one leg, and in one side only of the abdomen. They had each a separate diaphragm, and the abdominal muscles on each side of the mesial plane were supplied with blood by the vessels, and were under the control of the nervous system of the corresponding child. They had each a distinct stomach and alimentary canal, which probably opened at a point close to the common anus. The mother, a young woman, aged twenty-six, stated that the children were born on February 28, 1878, and that her labour lasted seven hours, one head and body being born first, then the lower extremities, and immediately after the second body and head. Dr. Wiltshire said that the case resembled one figured and described in M. St. Hilaire's classic work on the subject, that of Rita-Christina, who died at the age of eight and a half months, as was supposed, from privation, exhibition of the monster having been forbidden. A similar case has been recorded by Sir Astley Cooper, as seen by him in Paris in 1792, and another was said to have occurred in the reign of James IV of Scotland. In the last case the two sides of the body were said to have guarrelled.

Double Uterus.

Dr. Herman exhibited a specimen of double uterus and vagina. The woman from whom it was taken had borne two children, and nothing peculiar was noticed about her during life. The left vagina was the larger.

Myxoma of Ovary.

Dr. GALABIN showed the uterus and ovaries, with microscopical specimens, from a case of the above. The patient, a woman, aged twenty-one, had suffered from almost constant hæmorrhage since her marriage three years previously, and when admitted into Guy's Hospital she was so exhausted that transfusion was thought of. The hæmorrhage, however, was checked by the use of a sponge tent, and the subsequent injection of hot water, but the woman died ten days later of suppurative peritonitis. Both ovaries were found enlarged, but retaining their normal shape, and it was at first thought that the enlargement was due to acute inflammatory cedema, their tissue appearing soft and gelatinous. Microscopical examination, however. showed that the histological characters of the growth were those of myxoma, though the harder portions exhibited the characters of sarcoma. The spleen and liver were leukæmic. The uterine mucous membrane was disintegrated on its surface (as shown in one of the microscopical sections) and altered in structure, its round cells appearing separated as if by fluid effused between them, and being surrounded by a fibrillar growth reminding one of the state of things found in the ovaries. It might be a question whether any pathological relation could exist between the leukæmic deposits, the growths in the ovaries, and the state of the uterine mucous membrane.

Distortion of Child in Face Presentations.

Dr. ROPER exhibited the cast of the head of a child, born under face presentation, mento-anterior, showing the characteristic distortion of face and cranium which usually takes place in this presentation; the labour, which was a hard one, did not terminate until nineteen hours after the liquor amnii had been discharged. The head, however, was easily delivered by forceps, though the child, a female of large size, was still-born.

Retroflexed Uterus.

Dr. Champneys exhibited the uterus and neighbouring parts, taken from the body of a woman aged forty-two, who had died of pulmonary hæmorrhage, caused by the rupture of a small aneurism of a branch of the pulmonary artery into a vomica of the lung. The uterus was decidedly retroflexed, a state apparently caused by a thickened band of tissue, which, starting slightly above the level of the os internum, where it was about one-third of an inch broad, ran downwards and ended in the right utero-rectal ligament, which was decidedly thickened along its upper border and far better marked than its fellow on the opposite side. When suspended by the fundus the outline of the posterior wall of the uterus showed a concavity over which the abovementioned band was stretched as a cord. The size and appearance of the uterus led at first to the impression that the woman must have been recently delivered, an inference confirmed by the appearance of a well-marked corpus luteum in the left ovary. There was no history of dysmenorrhæa or other uterine complaint. A vertical ridge was seen on the vaginal wall, resembling a nympha. It was probably the remnant of the line of fusion of the two canals forming the vagina. The woman had borne two children, the last three years ago, and had menstruated about a week before her death. In reply to Dr. Meadows, Dr. Champneys said that he had not yet made measurements of the thickness of the uterine walls.

Hand behind Head Presentation.

This case was reported to the Society by Dr. James Brydon, of Hawick. Pains did not come on until fourteen hours after the waters ruptured, and, on examining the patient two hours later, Dr. Brydon found the os dilated to the size of half-a-crown, and a hand protruding through it. Assuming it to be a case of cross birth, he waited a quarter of an hour and then prepared to turn, but, on passing up his hand, he was astonished to find in the brim a head as well as

a hand. The former was coming in the second position, while the hand was behind the occiput, and protruding a little before it. He decided not to interfere, and the child was soon born without help, in the position indicated. As it emerged its face was to the front, the right hand protruded to the back of the head, and the arm and forearm lay around the occiput. This presentation, concluded Dr. Brydon, was very rare, and few of the cases which had been recorded passed off so easily as this one.

Treatment of Chronic Inversion of the Uterus.

Dr. Aveling exhibited some repositors which he had devised for the treatment of inversion of the uterus, and related the particulars of a very obstinate case which he had recently succeeded in reducing by their agency. His repositors consisted of cups of various sizes attached to stems, which differed from those of all other repositors in having both a pelvic and a perineal curve. The case alluded to was a chronic one of fifteen months' duration, had been under treatment for twelve months, and had been finally handed over to an obstetric surgeon for amputation of the uterus. He introduced the largest of his instruments without much pain, on the morning of May 7th, and the patient wore it comfortably till the evening, when considerable pain came on. The next morning the uterus was found reinverted as far as the internal os, and a smaller cup was therefore applied, and a pressure of from one to two pounds exerted by means of four elastic rings attached to a belt and shoulder strap. On the morning of the 9th, he was astonished to find that the cup had passed through into the uterus, while the cervix was so tightly contracted around the stem that he had to remove it under chloroform. The case showed the extreme plasticity of the uterus, and led him to believe that there were very few cases of inversion which could not be returned if pressure were only applied in the proper direction.

The President congratulated Dr. Aveling on the success of his case, and said that he felt disposed to subscribe to what he had said as to the possibility of all, or almost all, such cases being returned. He thought the addition of the perineal curve to the repositor a great

improvement.

The Curves of Midwifery Forceps, their Origin and Uses. By Dr. AVELING.

The author commenced by saying that the curves of the forceps were of especial interest to Englishmen, as all of them had had their origin in this country. At present, however, it was not his intention to submit to their notice the minor curves, but only those which might be looked upon as fundamental—viz., the head curve, the pelvic curve, the perineal curve, and the handle curve. These he

would consider in their historical, anatomical, and mechanical

aspects.

1. The Head Curve.—After alluding to Dr. Peter Chamberlen's connexion with the forceps, and his invention of the fenestrated and separate blades, the author said that the most perfect of that physician's instruments had a head curve with a diameter of eleven inches, a length of seven inches, and a fenestrum five inches long. When the blades were united there was a space of one inch between their apices, and their greatest divergence was three inches. In these relations, therefore, Chamberlen's forceps were almost identical with the popular models of the present day. After briefly alluding to the anatomical conditions affecting the head curve, the author passed on to its mechanical requirements, which he considered under the headings Introduction, Prehension, Compression, and Traction. blade of a forceps could not be easily introduced if its curve were too abrupt or too open. The nine-inch curve, which was most suitable for introduction, also fortunately happened to meet other mechanical requirements. In choosing the best curve for prehension, we must select one which pressed evenly upon a large surface of the head, as the efficiency of its retaining power and the safety of its employment in compression depended upon the extent of the areas upon which the blades pressed. The extents of contact permitted during active prehension by head curves of five, nine, and fourteen inches respectively were described and illustrated by diagrams; and it was shown that the prehensile area presented by the nine-inch curve was the largest, and consequently that curve was the safest and best. During active prehension the actions of the distal and proximal ends of the blades antagonised each other; but when traction was applied the proximal half became inactive, and the distal active. To insure safe and efficient traction it was necessary that the head curve should afford a large retentive area. It was shown by diagrams that the fiveinch curve gave an efficient but dangerous hold, from its liability to indent the skull; the nine-inch curve granted a good retention area with pressure equally distributed; the fourteen-inch curve gave very small retaining power, and one could only prevent the blades from slipping by approximating them with great force. The best curve which could be given to the blades to render them safe and effectively retentive was that which coincided most nearly with the curve of the fœtal head. The nine-inch curve fulfilled this requirement as far as was practicable, and it might, therefore, be advantageously adopted for introduction, prehension, and traction.

2. The Pelvic Curve.—Under historical considerations the author brought forward evidence to prove that the originator of the pelvic curve was Benjamin Pugh, surgeon at Chelmsford, who made and used forceps with this curve in 1740, seven years before the date which French writers assigned to Levret's invention. It was true that he did not publish his invention till 1754, but, owing to the difficulty of publication in those days, the date of publication was not

then a fair test of priority in invention. Under mechanical requirements the author showed that the pelvic curve facilitated introduction, and enabled the blades to seize the head, before it entered the pelvic cavity, in a line with the axis of the brim. In *traction*, however, it might or might not be advantageous, according to the manner in which the force was applied. When traction was made by the handles alone, the straight forceps drew the head less upon the pubic bones than the forceps having the pelvic curve, the angle between the line of traction and the axis of the pelvic brim being, in the former case, 20°, in the latter, 30°, and to overcome this difficulty the latter must be used with two hands acting in opposite directions.

3. The Perineal Curve.—The originator of this curve was Dr. Robert Wallace Johnson, who published a description of it in 1769. This curve was anatomically rendered necessary by the fact that the perinæum stretched across the pelvic outlet and occluded the space which the shanks of ordinary forceps would occupy when traction was exerted upon the distant head. The line of traction, too, which this curve permitted, more nearly approximated to the axis of the brim than in the case of pelvic-curve, or even of straight forceps, the angle

between them being about 19°.

4. The Handle Curve.—Notwithstanding these improvements, no instrument was found to admit of traction being exerted in the required line when the head was high in the pelvis. Attempts had been made to overcome this difficulty by various obstetricians, and in March, 1868, the author had presented to the Society a forceps, the handles of which were curved backwards. This curve rendered introduction easier, enabled the operator to avoid undue compression, and greatly facilitated traction. But its great advantage was that it enabled one to use traction powers in the right direction, and thus to reduce the necessary forces of compression and traction to the minimum of intensity. He had used both long and short forceps with the handle curve frequently, and though the model was doubtless capable of improvement, he had been much satisfied with its easy application, its efficient prehension, and, above all, with its direct tractive power.

The President said that Dr. Aveling's paper not only contained an interesting view of all that had been done in connexion with the forceps in the past, but offered suggestions for their still further im-

provement in the future.

The Revolutions of the Fætal Head in passing through a Brim contracted only in the Conjugate Diameter.

A Laboratory Note by Dr. Matthews Duncan.

The only point considered in the note was movements of the fœtal skull in a coronal plane—that is, revolutions around the pubic part

of the pelvic brim, and around the promontory of the sacrum; movement resembling right and left lateral flexion, or like revolution on an internal or occipito-frontal axis. From this last kind of movements the revolutionary movements were distinct, because the revolutionary movements on an external axis implied progress of the head as a whole, and not mere movement on itself. Dr. Duncan's conclusions were based chiefly on experiments with fresh mature fœtuses and model pelvic brims, and tallied remarkably with the results of clinical observation of the progress of the head in head-last and in head-first cases, in simple narrow pelves. Recent inquiries into this subject had increased our practical usefulness distinctly, and farther elucidation of it was desirable. The experiments were made in imitation of footling cases, and the first result of traction through the spine was a revolution around the pubic part of the brim, the sagittal suture approximating to the promontory. The next and greater revolution was around the promontory, the sagittal suture approximating to the pubes. The side of the base of the skull placed posteriorly passed first through the contraction and during the first revolution. The side of the vault of the skull placed anteriorly passed first during the second, or greater revolution. Litzmann, Lahs, Kleinwächter, and Spiegelberg described only the first revolution, or rather its analogue in head-first cases. Barnes described only the second or greater revolution. Goodell, in singular accordance with the conclusions of this note, described two movements, but not as revolutions; and he made this so far accurate description of both head-first and head-last cases. The movement of the sagittal suture towards the sacrum (and of the base of the fœtal skull in nearly an opposite direction) in the first part of the passage in head-last cases was analogous to the movement of the sagittal suture forwards at the same stage of a head-first case. In both, the head was revolving to a slight degree on the pubic part of the brim of the pelvis. The movement of the sagittal suture towards the symphysis (and of the base of the fœtal skull in nearly an opposite direction) in the second and greater part of the passage in head-last cases was analogous to the movement of the sagittal suture backwards or towards the hollow of the sacrum at the same stage of a head-first case. In both, the head was making its greater revolution on the promontory of the sacrum.

The President said that he would refer to only one point in Dr. Duncan's elaborate paper. He questioned how far we were justified in inferring what took place in head-first cases from our knowledge of what took place in head-last cases. The conditions in the two cases appeared to him so different that we ought to use the utmost caution in arguing from one to the other.

Dr. Braxton Hicks said that it was most difficult to pick out points to discuss from such papers as those of Dr. Aveling and Dr. Duncan. He had considerable doubt whether the mechanism of

descent of the after-coming head could be taken as an illustration of the mode of descent of the fore-coming head, for in the event of an abbreviated antero-posterior diameter the latter often made an evasion of the difficulty by coming down face forwards. He would add one remark on Dr. Aveling's forceps, which would apply to all forceps with smooth handles. He preferred forceps made with rough handles, because when traction was applied they had no ten-

dency to slip, but clung to the hands of themselves.

Dr. CHAMPNEYS said that, having had the advantage of seeing some of Dr. Duncan's experiments, he had looked up those authors who had tried to explain the cause of the obliquity of the feetal head. Lahs, describing the rotation of the posterior parietal bone round the symphysis pubis as a centre, said, "the cause of this rotation is that the angle formed between the posteriorly-lying cranial surface and the posterior pelvic wall is far smaller than that formed between the anteriorly-lying cranial surface and the anterior pelvic wall." His figure to illustrate this was open to the criticism that the angle was not drawn from the point of contact, and that it would be equally easy to draw a figure proving the direct contrary. Litzmann, describing the descent of the after-following head and the similar more rapid descent of the posteriorly-lying parietal bone, explained it thus:—"In correspondence with the direction of the traction forwards—the posteriorly-lying side of the head gets a start." similar movement in the head-first and head-last presentations was, in Champneys' opinion, probably due to a common cause. Lahs had not satisfactorily explained it, while Litzmann's theory was obviously incorrect, as "traction forwards" could not exist in Dr. Duncan's experiments by means of a dead weight applied at right angles to a horizontal pelvic brim. It occurred to him that a possible explanation was the following:—The relative rate of descent of the anterior and posterior cranial sides was inversely proportional to the friction at symphysis and sacrum. This friction was greater at the pubes at first because the surface was larger, and, therefore, at first the posterior parietal bone descended quicker. Now the indenting power of a body was inversely proportional to the indenting surface, or in other words, the larger the surface exposed to a given weight the less the indentation. The promontory of the sacrum offered a smaller surface than the posterior surface of the symphysis pubis, and its indenting power was therefore greater. The effect of progressing indentation was rapid increase of friction at that point, not only from the increase of surface exposed to friction, but also from the steep superior side of the indentation which was always becoming steeper. The result was that the posteriorly-lying parietal bone descended at first more rapidly, until the friction caused by the indentation by the promontory of the sacrum became greater than the friction at the symphysis pubis. Then the anteriorly-lying parietal bone descended more rapidly, but it did not really describe a circle round the promontory of the sacrum, because both parietal bones descended.

Dr. Galabin asked what conclusion Dr. Duncan would draw as to the occurrence in pelvic contraction of lateral obliquity of the fœtal head at the brim as described by Naegele, involving a displacement of the sagittal suture posteriorly to the axis of the brim. Many authorities now denied the existence of this in natural labour, but he thought that it occurred when the head did not pass easily, and was so shaped that a slight tilting caused it to present a less diameter to He thought that general conclusions could hardly be drawn from the behaviour of the after-coming head to that of the head in vertex presentations, but if lateral tilting occurred with a pulling force, as shown by Dr. Duncan, it would be still more likely to do so with a pushing force, which would permit it more readily. understood Dr. Duncan to hold that the vault of the head entered the contracted brim in a head-first case with the posterior side of the head in advance. His own observations led him to think, in accordance with the older view, that the anterior side of the head was generally in advance in such a case, so that a Naegele obliquity existed, and the sagittal suture was posterior to the axis of the brim.

Dr. Duncan said, in reply, that the lateral obliquity of the feetal head was a matter not of inference, but of observation, and it had been noticed by every trustworthy observer in head-first cases. He had himself observed that the sagittal suture often advanced forward, while the head made very little progress, a phenomenon which must be due to a revolution round the symphysis pubis. It was necessary to remember that it was at the earlier stage of labour that the Naegele obliquity was observed. The majority of observers, however, denied the existence of this obliquity in ordinary normal cases, and it might be that Naegele had made his observations on pelves with a slightly contracted brim. In his time the frequency with which a slight amount of pelvic distortion occurred was unrecognised; but it was now known that it existed in from thirteen to fifteen per cent. of all the cases admitted into the German hospital. He would remark, in conclusion, that Goodell alone of all observers had described the passage of the head as he had done in his paper, and it was highly probable that Goodell was right.

In reply to the comment of Dr. Hicks, Dr. AVELING said that roughened handles were no doubt useful when this portion of the forceps was straight, but in his instrument the handles were purposely made smooth, because traction was intended to be made from their

hooks, the sides being used simply for compression.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, February 13th, 1878.

Dr. David Wilson, and afterwards Dr. Keiller, in the Chair.

The Dull Wire Curette in Gynæcological Practice.

By PAUL J. MUNDÉ, M.D., Assistant-Surgeon to the New York Women's Hospital; Fellow of the New York Obstetrical and American Gynæcological Societies.

Since the discovery by Récamier, in 1850,* of the presence of "intra-uterine fungosities" as a cause of metrorrhagia, and his recommendation of the curette with subacute edges, known by his name, for their removal, the majority of gynæcological text-books have mentioned these growths and their operative treatment. Only in Meigs (1851), Churchill (1857), and Hewitt (1872), do I find no reference to the curette, the latter merely speaking of "fungus-like vegetations on the surface" as a cause of profuse menstruation. When I say that all these authors describe Récamier's subacute curette, I would not, however, have it understood that they all recommend or approve of it. Indeed, some authors were so loud in their condemnation, and others so faint in their praise, as almost to abolish the use of the instrument. And no wonder, for Récamier himself reported three cases of perforation of the uterus and death resulting from its use, a misfortune which caused Aran† to denounce the curette as a barbarous instrument, which merely shaved off portions of the normal mucous membrane, and was productive of benefit only in those exceptional cases where real vegetations existed, a verdict entirely concurred in by West, ‡ and without the extenuating exception by Scanzoni, who curtly dismisses the curette "as an instrument based on entirely erroneous theories, and therefore devoid of all practical utility." On the other hand, men like Trousseau, Nélaton, Maisonneuve, Nonat, and others, principally of the French school, employed and recommended the instrument. The most prominent of recent French gynæcological authors, Courty, however, says, that the danger attending its use and the possibility of accomplishing the same result by less perilous remedies (leaving the solid stick of nitrate of silver in the uterine cavity?) have induced him almost wholly to discard it. Notwithstanding this verdict, Næggerath, as recently as 1871, at a meeting of the New York Obstetrical Society, ¶ stated that he had used Récamier's curette

^{* &}quot;Mémoire sur les productions fibreuses et les fongosités intra-utérines, "Univ.

Méd., Juin, 1850. † "Maladies de l'Utérus." # "Diseases of Women," 3rd edition. § "Krankh. der weibl. Sexualorgane," 1867.

"Traité des Maladies de l'Utérus," 1866.

[&]quot;Traité des Maladies de l'Utérus," 1866. ¶ Trans. N. Y. Obst. Soc., 2nd May, 1871; Am. Jour. Obst., vol. iv. 3.

about twenty times, and had had no unpleasant results therefrom, although he admits expecting such at any time. He had even performed the operation at his office. At the same meeting, however, Chamberlain reported a case of hysterical tetanus resulting therefrom, in which recovery occurred. Peaslee mentioned a death from collapse, and Næggerath himself referred to a case of Dr. Thomas, in which the patient almost died from the same symptom following the use of the curette. Budd also expressed his disapprobation of the instrument, having seen cellulitis follow its use.

While Barnes, Schroeder, and other recent authors mention Récamier's curette, they do not specially recommend it, but rather warn against its free use. Only Hegar and Kaltenbach, in their excellent work on "Operative Gynæcology,"* speak of "the curette of Récamier" as an instrument which (with the sharp spoons of Simon) they have had frequent occasion to use in disease of the endometrium. But the figure given by them on page 264 as Récamier's curette clearly represents, not Récamier's instrument, but that of Marion Sims, to which latter, therefore, the statement of these two authors must be held to apply.

Sims's curette has almost completely supplanted its predecessor, but its positively sharp cutting edges and inflexible steel shank render it an instrument scarcely less dangerous for use in the cavity of the uterus proper than the latter, the injury inflicted by which must have been caused more by its point than its subacute edges. Dr. Fordyce Barker tells me that he knows of three cases of peritonitis following the use of Sims's, and one that of Récamier's curette. And Thomas, in the last edition of his book, published in 1874, seems to restrict the sharp steel curette of Sims to the removal of Nabothian follicles from the cervical canal only; Récamier's instrument he does not even mention. Lombe Atthill, in his practical little book on Diseases of Women,† speaks of the curette (Récamier's) as "an unscientific instrument, ill-adapted to attain the object in view," which has to be employed entirely at random, and therefore must often prove inefficient, as proved by Récamier himself deeming it necessary to cauterise the uterine cavity with nitrate of silver after the withdrawal of the curette. Colucci, t in a recent article, wholly condemns the use of the curette (doubtless Récamier's also, for he mentions no name) in endometritis, apparently, however, entirely on theoretical grounds.

Another sharp steel curette with strong inflexible shank, in different sizes, was devised by Simon, but its use was by him restricted to the scraping or gouging of large cancerous growths of the cervix, | vagina,

^{* &}quot;Die Operative Gynäkologie." Erlangen, 1874. † "Chir. Lect. on Dis. of Women." Dublin, 1873.

^{# &}quot;Della Endometrite," Il Morgagne, Jan. to March, 1877.

§ "The Scraping out of Soft Sarcomatous and Carcinomatous Tumours from Cavities of the Body," Beitr. z. Geb. u. Gyn., Berlin, I., 1872.

|| Mundé, "Treatment of Cancer of the Uterus with the Sharp-edged Scoop, or Curette," Am. Jour. Obst., 5th Aug. 1872.

rectum, and other cavities, of ulcerating lymphatic glands, carious bone, &c.; but, to my knowledge, he never advised its application to the endometrium itself.

While the majority of authors thus appear to condemn Récamier's curette as a dangerous instrument by reason of its powerful and inflexible build, it must be equally evident to all familiar with Sims's likewise inflexible sharp steel curette, that its employment is by no means entirely devoid of peril, and that it is, to say the least, in the larger proportion of cases an unnecessarily severe measure, and one likely to produce more injury and be followed by greater reaction than desirable. The immunity from danger, therefore, apparently enjoyed by Hegar and Kaltenbach is rather exceptional, and speaks well for the caution observed during their manipulations. It certainly is a safe rule in uterine surgery to restrict the use of the sharp cutting curettes to neoplasms of the cervix and its cavity, and to employ them in the cavity of the body of the uterus only when the size, dense character, or firm attachment of the growth calls for a powerful instrument, and its dangerous nature justifies the running of some risk in its removal. Under such conditions, the operator may be held guiltless, even though he be so unlucky as to perforate the uterine wall and lose his patient, as happened to Spiegelberg*

while curetting an encephaloid cancer of the corpus uteri.

Influenced by these considerations, and recognising the need of a safer and equally efficient instrument in the majority of the cases where a curette is required, and furthermore, as he himself told me, warned by the narrow escape above referred to (on which occasion Sims's curette was used), Dr. P. J. Thomas devised the dull curette of flexible copper wire described in his work on "Diseases of Women," 4th edition, 1874, pp. 273 and 609. Although Récamier's, Sims's, and Simon's curettes are, as stated, mentioned in all the modern text-books on gynæcology, only in the inventor's own book, and in a short footnote to an abstract of an article by Olshausen of Halle on "Chronic Hyperplastic Endometritis," prepared by Dr. M. D. Mann for the American Fournal of Obstetrics, November, 1875, p. 562, is Thomas's curette described, and I do not think that I am far wrong in assuming that, outside of the United States, that instrument is scarcely known or used. Even here in America its use is chiefly confined to New York and Brooklyn, in which cities our instrument-makers inform me that they sell many Thomas's curettes, while but very few are disposed of in other sections of this country. It must seem that the profession at large have not as yet realized the frequency with which this simple little instrument is required, and the benefits resulting from its use,—benefits so marked and attended with so little risk, as to render the popularization of the instrument, to the exclusion of the ineffectual internal remedies and harsher local measures, highly desirable.

^{*} Arch. f. Gynäk., vi. I, 1874.

With this object in view, I had for some time contemplated again calling the attention of the profession to it, when a report by Gallard to the Scientific Congress at Havre in August, 1877,* met my eye, and confirmed me in my purpose. On that occasion Gallard records his observations on the pathological anatomy, growth, and treatment of vegetations of the uterine mucous membrane, and mentions the case of a woman, sixty-five years of age, with menorrhagia of two years standing, who, after ineffectual treatment by cold injections, intra-uterine injections of perchloride of iron, and Canquoin's paste, was finally cured by curetting the uterine cavity with Récamier's instrument and the subsequent application of Canquoin's paste (chloride of zinc). The curette removed a saucerful (!) of pulpy matter ("d'une sorte de bouillie"), which was nothing else than mucous vegetations. No inflammatory reaction followed the treatment. Basing on this case, Gallard retracts his former verdict, that curetting is "a detestable operation," and believes that in certain cases the curette may be of real service. Now, when a man like Gallard thinks it worth while to detail a case (called a "remarkable case" by the reporter), the like of which (perhaps in a lesser degree) is to my certain knowledge met with in New York almost weekly, and rapidly relieved in a few moments by the wire curette, without any one of the severe measures first employed by the eminent French gynæcologist, I cannot help thinking that it may not be superfluous to point out, in as forcible a manner as possible, how frequent such cases are, and how much more readily and safely they can be cured than by Récamier's curette and the paste of Canquoin.

Before proceeding to a description of Dr. Thomas's instrument, the manner of its employment, its indications, and the conditions requiring its use, I wish to say that this purely clinical paper is not designed to discuss the etiology and pathological anatomy, or all the clinical features of intra-uterine vegetations, or the other conditions calling for the curette. These shall be touched upon only so far as appears necessary to my purpose; for a fuller description of the vegetations I refer the reader to the abstract of Olshausen's complete and valuable paper above mentioned, or to the original in the *Archiv für Gynäkologie*, vol. viii., No. 1, entitled "Chronische Hyperplastische Endometritis." It is, so far as I am aware, the only contribu-

tion to medical literature specially devoted to that subject.

Description of the Instrument.—Thomas's "copper-wire curette without cutting edge" (as he himself calls it) is an instrument o inches long, $3\frac{1}{2}$ inches of which form the wooden handle, made of soft copper wire $\frac{1}{6}$ inch thick near the handle, and tapering down to $\frac{1}{12}$ to $\frac{1}{16}$ inch in thickness at $\frac{1}{3}$ inch from the end, where it is bent into an elliptical loop $\frac{1}{4}$ inch broad, the wire at the loop being flattened on the scraping surface. The wire at the inception of the

^{*} Arch. de Tocol., Oct. 1877. † "Leçons Cliniques sur les Maladies des Femmes," p. 242.

loop is so soft and flexible that any greater than a superficial pressure will cause it to bend, whereby a deep injury to the uterine mucosa is absolutely avoided. Besides, at the junction of wire and handle the former is grooved, so as to bend easily at the point, also with the object of preventing firm pressure. The breadth of the loop mentioned above, $\frac{1}{4}$ inch, is the usual size; but there are two other sizes made, one larger and one smaller, in proportion to the patency of the cervical canal.

It may seem that this flexible blunt loop of wire is too frail to be of real service, but experience has amply shown that it fully answers the purpose for which it was intended, and that gently drawing it over the uterine mucous membrane suffices to detach the projecting vegetations or granulations and to cure the case, without requiring or subjecting the patient to the danger accompanying the use of a stiff

sharp steel scoop.

Indications.—There is really only one indication for the use of the curette, and that is pathological uterine hæmorrhage; menorrhagia, or metrorrhagia, which has resisted all other remedies, and for which no physical cause, constitutional or local, can be detected by the usual means of exploration. In such a case we are compelled to look for the cause of the hæmorrhage in some intra-uterine disease not distinguishable by the ordinary digital and specular examination. The curette will then give us the required information, for by it we shall either remove a portion of the fons et origo mali, or receive a negative result at least, in the assurance that the uterine cavity is empty and healthy. The first and chief use of the curette, therefore, is as a means of diagnosis, and as such it must be employed in almost every case until its withdrawal shows the presence or absence of an exciting cause.* The unirritating nature of the operation with the wire curette renders this procedure entirely justifiable and harmless, while sufficiently effective. Having thus ascertained by means of the curette what the cause of the hæmorrhage is, if located in the uterus, we find that it is one of three conditions requiring the therapeutic employment of the curette. These are, taking them in the order in which they are commonly met with :- 1. Chronic hyperplastic endometritis or fungous degeneration of the uterine mucous membrane. 2. Retention of adherent placental villi after miscarriage. 3. Diffuse sarcoma of the mucosa of the body of the uterus.

1. Endometritis hyperplastica chronica or polyposa (Olshausen), fungous degeneration of the uterine mucous membrane (Thomas), fungosites uterines (Récamier), endometritis chronica (Hegar and Kaltenbach), metritis hæmorrhagica (Weber, St. Petersburg), metritis

^{*} Although I have repeatedly heard Dr. Thomas mention this diagnostic use of the curette, in no text-book or paper do I find it recorded except in that of Hegar and Kaltenbach (*l.c.*), who make precisely the same use of Sims's curette (or Récamier's, as they call it). With Sims's instrument, however, the operation can evidently be neither so gentle nor so innocuous as with the wire curette, which latter answers every purpose.

villosa (Slavjansky), manifests itself by three separate anatomical conditions: (a) diffuse, low granulations, developed in patches eroded and ulcerated by chronic catarrh, or spread over the whole mucosa, similar to granular conjunctivitis (Atthill); (b) a uniform general hyperphasia of the whole mucosa of the uterine body without polypoid formations, "an unhealthy pulpy condition of the mucous coat" (Tanner); and (c) numerous polypoid fungous vegetations scattered over the hyperplastic mucosa, the endometritis polyposa of Olshausen. In this last category might be included mucous polypi, which however are rare in the cavity of the uterus proper, and generally confined to a limited portion of the endometrium.

All of these pathological conditions are well known to produce hæmorrhage, which is arrested only by the removal of the exciting cause. The masses removed by the wire curette in class a will generally possess more the character of fine shreds and turbid bloody mucus without actual distinct pieces of tissue, the curette merely crushing and obliterating the flabby granulations; in class b, soft pale slices and irregular patches will come away; and in class c, distinct, flattened, polypoid vegetations, varying in size from a millet-seed (the usual size) to a pea or a bean, and soft and pulpy in

consistence.

Occasionally all of these neoplasms are combined, and removed in the same case.

The vegetations or fungosities (according to Dr. De D. Mann, pathologist to the New York Obstetrical Society) consist histologically of the structureless basement substance, containing great quantities of small round cells and nuclei, and portions of uterine

follicles and vessels. Granulations have no follicles.

Olshausen states that endometritis polyposa strongly resembles the broad-based molluscum of the corpus uteri described by Virchow, the great difference being however that in the latter affection large masses of dilated glands are found, which are absent in the former. A microscopical examination will usually be required to determine the exact nature of the masses removed, should there be any doubt on the matter. It should further be stated that endometritis polyposa is limited strictly to the cavity of the uterus proper, stopping at the os internum, below which commences the region of enlarged Nabothian follicles and mucous polypi, for the removal of which Thomas himself recommends Sims's sharp curette.

Endometritis polyposa is not confined to the married or parous woman, but occurs also not unfrequently in the single female, even after the menopause. It generally owes its origin to a chronic catarrh of the endometrium, the ordinary muco-purulent discharge of which has gradually become sanious or pure bloody, accompanied by profuse menstrual flow, and gradually increasing anæmia and general debility. The previous existence of a profuse chronic leucorrheea will therefore convey a suspicion of the presence of this affection. The local symptoms are often slight, generally merely the ordinary

pelvic weight and dragging met with so commonly in uterine disease. The cervix is usually soft, the external os often more or less gaping, and the cervical canal and internal os patulous. The finger passed into the uterine cavity could feel the mucous membrane swollen and spongy. To detect the vegetations themselves by the touch would scarcely be possible, owing to their scattered site, small size, and pulpy consistency. No one portion of the endometrium seems particularly favoured by these growths, for I have removed them with the curette from either surface. The number of vegetations removed may vary from two or three to a dozen, or a whole teaspoonful or more, their size from a millet-seed to a bean, the latter being rarely met with.

When we consider how easily the diagnosis of this affection is now made by the curette, we must wonder at its having been so rarely recognised and so little appreciated, as it undoubtedly has been since its discovery some twenty-eight years ago. The explanation given by Olshausen for this neglect is probably the correct one, namely, that the sharp curette having been proscribed, the only means of diagnosis of the affection was by the finger, after opening the canal by laminaria or sponge tent (still the only method advised by Atthill in 1873); the former of which flattened out the growths and rendered them im-

palpable, and the removal of the latter destroyed them.

After what has been already said in this article, it seems scarcely necessary to remark that constitutional treatment is of no avail whatever for the cure of this affection, and consists only in remedies designed to support and restore strength. Topical applications of caustics (argenti nitras, tr. iodine, liq. ferri persulph.), have by long experience been found but temporarily beneficial in arresting the hæmorrhage; stronger caustics such as nitric and chromic acids, will, it is true, convert the whole surface of the uterine mucosa into an eschar, and thus probably cure the disease. But as, in any case, the disease with its exciting cause, is liable to recur, and the use of these strong caustics is always attended with more inconvenience, pain, and danger than are ever found to result from the simple operation of the wire curette, the latter instrument should invariably be preferred to caustics in these cases.

2. Placental villosities are very frequently detected *in utero* after a miscarriage, particularly when the placenta was expelled alone, after the birth of the embryo, or was manually removed. These patients generally continue flowing after the miscarriage for a longer or shorter time (often profusely), until their weakened state finally obliges them to seek medical advice, usually after the fruitless employment of a variety of constitutional hæmostatics. Should the cervical canal still be sufficiently patent, the finger will generally detect an irregular rough circumscribed spot on the endometrium, or what is equally positive and more applicable, through the generally contracted os. The curette makes that discovery, and at once removes a fragment, the macro- and microscopical appearance of which readily

assures the diagnosis, and points out the immediate cure of the

hæmorrhage by the removal of its exciting cause.

3. Diffuse sarcoma of the uterine corporeal mucosa is a very rare disease, only sixteen instances of which have, according to Schroeder, been recorded in literature. It should not be confounded with sarcoma of the parenchyma of the uterus, which is decidedly more frequent, and resembles in its macroscopical characteristics the ordinary fibroid tumour of the uterus. Diffuse sarcoma membrane is confined almost exclusively to the body of the uterus, only two cases of its occurrence in the cervix being recorded (both Spiegelberg), and appears as a soft, flabby villous growth, spreading over a greater or lesser surface, and rapidly assuming an irregular polypoid shape. It is in its early stages only that it is amenable to treatment by so simple an instrument as the wire curette; later on, the sharp scoop or the galvano-cautery are required. The differential diagnosis between diffuse sarcoma, unusually prolific vegetations, and retained placental fragments, can as a rule be made with certainty only by the microscope, and is then easy enough, the distinctive histological features of each of these masses being sufficiently characteristic. The symptoms of diffuse sarcoma in the early stages resemble those of endometritis polyposa, but the hæmorrhage is generally more profuse, and alternates with watery discharges frequently mixed with shreds; and there is often more or less pelvic pain.

Another class of cases in which the wire curette can be advantageously and safely used are those of carcinoma of the cervix, in which, after amputation, the sharp scoop, or cauterisation, fresh readily-bleeding granulations spring up. These I have repeatedly removed off-hand with Thomas's curette, applied nitric or chromic acid, or bromine, or sol. ferri persulph., and sent the patient home. Large masses of cancerous tissue would, however, require a more powerful instrument, like Simon's sharp scoop, the use of which should be attended by all the precautions employed during and after

a serious operation.

Manner of using the Wire Curette.—As a rule, it is not necessary to anæsthetize the patient—indeed I have never done so, for nearly all my cases were operated on at my office or at the dispensary, the patient being dismissed to her home immediately after, with the direction to remain quiet for twenty-four hours, and to avoid exposure to cold. Still, in exceptionally sensitive or nervous patients, it may

be advisable to do so.

It is doubtless possible to introduce the curette into the uterus, and scrape over more or less of its cavity through a bivalve or cylindrical speculum, or without a speculum, on the finger only; but such a procedure can be at best incomplete (then truly performed "almost at random," as Atthill says), because the narrow field afforded by the specula named prevents free movement of the instrument. An inflexible steel curette can doubtless accomplish its purpose when simply introduced on the finger, and I have repeatedly removed both

carcinomatous masses and large masses of placenta in this manner with Simon's scoop, guarding uterus and instrument with the other hand on the abdomen. But the only true way of operating with Thomas's curette, and the only way in which he uses it, is through Sims's speculum in the left semi-prone position. It is true this speculum requires the presence of an assistant, but almost every adult person will suffice for the purpose in so simple and rapid an operation; and the comfort and advantage obtained by the use of this,

really the only perfect speculum, is incalculable.

The patient having been placed in Sims's position, and the cervix being exposed with Sims's speculum, the operator seizes the anterior lip of the cervix with a tenaculum, draws the uterus gently down, thereby straightening its canal, and holding it steady, introduces the sound or probe to ascertain the direction and length of the uterine canal. Bending the shank of the curette, in accordance with the information thus obtained, he passes it into the cavity of the uterus, which he carefully explores by drawing the curette gently over the whole mucous membrane, always in the direction from the fundus to the internal os. Should the vegetations be large or very numerous, or the mucosa much hypertrophied, a certain feeling of resistance or a rough grating sensation will be imparted to the finger of the operator, revealing to him the presence of the neoplasms. In case of adherent placental remnants, this grating sensation is particularly distinct, and can even be faintly audible to the bystander. A very slight flow of blood accompanies this operation, never more than a tablespoonful or two. Having completed this tour of the uterine cavity the curette is withdrawn, bringing with it blood, and, if present, vegetations, placental fragments, or carcinomatous masses. These are easily secured and detected by wiping out the vagina with dry cotton, on which the small, pale, flat, elongated, homogeneous-looking vegetations, or the firmer particoloured placental fragments, are readily discernible amid the coagula. The detection of sarcoma will devolve on the microscope. If the operator wishes to make sure that all neoplastic formations have been removed, the curette may again be introduced, and the vagina tamponed with cotton soaked in glycerine, and the patient dismissed. In severe cases I have seen Dr. Thomas order a dose of morphine after the operation; but as a rule no other immediate after-treatment than rest is required. I have been in the habit of painting the whole of the uterine cavity, immediately after cleansing it with cotton, with Churchill's tincture of iodine, as a styptic, and caustic (although really not needful as such), and chiefly as a disinfectant and alterative, to insure the thorough destruction of the neoplasms and the absorption of the hyperplastic tissue; in protracted cases, where the number of vegetations was great or the hæmorrhage profuse, I have left a tent of cotton soaked in iodine in the uterine cavity, allowing it to be expelled by uterine contractions after several days. I have never seen the least ill effects

from this treatment, but do not deny that I may be mistaken in considering it more efficacious than the simple painting of the cavity.

Should the neoplasm be discovered to be sarcoma, the cavity of the uterus would have to be thoroughly opened by laminaria, and

nitric acid or the galvano-cautery applied.

As a rule the external os is, even in multiparæ, sufficiently patent to admit the curette, and the same may be said of the internal os, which the profuse hæmorrhage has tended to dilate. Occasionally, when even the smaller-sized curette will not pass, I dilate the internal os with Ellinger's steel two-branched dilator, and then experience no further difficulty. Thomas says that dilatation with tents is rarely required. Surely this is a great advantage! The pain attending the ordinary operation of curetting, as above described, is usually but slight; it occupies barely five minutes, and the reaction is nil.

Dr. Thomas tells me that he has performed the operation "hundreds upon hundreds of times," and has never seen the least ill effects therefrom. As a rule, however, where feasible, it may be advisable to avoid all risks, and perform the operation at the house of the patient or in a hospital, and keep her in bed for twenty-four hours afterwards. The simple introduction of the sound has produced cellulitis and metroperitonitis; it cannot be denied, therefore, that the wire curette may at any time (although thus far it has not done so), in a peculiarly susceptible patient, light up a similar trouble. But an ordinary diagnostic exploration of the uterus with the curette, and the removal of a number of vegetations, is really an almost innocuous procedure, and not likely to be followed by evil consequences, even if performed in the physician's office.

It must be borne in mind that, if the diagnostic curetting does not detect any cause of the hæmorrhage, at all events no harm has been done, and the negative answer is in itself valuable information. Cases are even met with in which the curetting, while not detecting any neoplasm, still cures the metrorrhagia apparently by its alterative stimulant action on the relaxed uterine mucous membrane. And this is doubtless the manner in which it benefits cases of granulation and diffused tumefaction of the endometrium without

vegetations.

If the uterine mucous membrane is healthy the wire curette will not injure it, and no shreds will therefore be removed; with the sharp curette, however, even the most delicate and practised hand could scarcely avoid shaving off slices here and there, the depth of which lesions cannot always be foreseen. It is this latter diagnostic curetting which must be termed harsh and "unscientific."

Counter-indications do not really exist, except such as would equally prohibit the introduction of the sound, viz., acute or moderately recent pelvic or uterine inflammation, which should first be allayed by appropriate means before hazarding the curette.

The following twenty-five cases, taken from over 1200 gynecolo-

gical cases met with in my private and dispensary practice during a period of three years, since which time I have been using the instrument, are briefly reported in illustration of the innocuousness and curative value of Thomas's dull wire curette, and of the frequency with which its employment is called for:—

1. M. R., twenty-eight years, married, two children. Bilateral laceration of the cervix. Seen 9th December, 1874. Metrorrhagia for some time; no assignable cause. Curette, removal of a number of vegetations. When seen again, 14th December, hæmorrhage had

entirely ceased, and did not return.

2. A. F., twenty-seven years, married, two children, miscarriage four months previously. Seen 18th December, 1874. Flowing since miscarriage. Curette removed a number of firm fleshy masses; found under the microscope to be placental villosities. Strong tr. iodine to uterine cavity. No return of hæmorrhage.

3. B. K., twenty-six years, married, two children, one miscarriage 9th January, 1875. Flowing since then; not arrested by hæmostatics. 9th March, 1875, curette, placental fragments. Cure.

4. M. G., thirty-three years, married, seven children, miscarriage 2½ months previously. Flowing for two weeks when seen 10th May,

1875. Curette, placental fragments. Iodine. Cure.

5. A. T., forty years, married, five children, four miscarriages at three and four months; last ten weeks before. Seen 22nd October, 1875. Flowing profusely since miscarriage, almost exsanguinated, waxy complexion; uterus anteverted. Curette, twice, followed by tr. iodine on cotton plug left in uterus, at intervals of a week Removal of large quantity of placental villosities and real vegetations at first curetting; a smaller number at second. First curetting at patient's house, second at my office. Complete cessation of hæmorrhage, and rapid recovery.

6. E. E., twenty-eight years, married, one child, one miscarriage at three months, one month before seen. Flowing since miscarriage. Uterus retroverted. Ergot, &c., ineffectual. 17th February, 1876, curette, placental fragments. Iodine. 21st, no hæmorrhage. Dis-

charged cured.

7. F. F., thirty-eight years, married, seven children. Flowing since last delivery, four months before. February, 1876, curette, placental

villosities and vegetations. Iodine. Cure.

8. F. M., twenty-six years, married, five children. Flowing since six weeks, probably miscarriage. 23rd October, 1876, curette, placental villosities. Iodine. Cure.

9. F. M., forty years, married, ten children. Menorrhagia for four years. External os gaping. 1st November, 1876, curette, but no vegetations nor other cause for hæmorrhage found. No reaction. Finally cured by repeated intrauterine application of tr. iodine.

10. B. G., twenty-three years, married five years, sterile. Chronic endometritis; profuse muco-sanious discharge and menorrhagia every three weeks, lasting seven days, for nearly one year. Iodine and

tannin to endometrium ineffectual. 5th December, 1876, curette, large number of polypoid vegetations removed. Iodine. Cure.

11. S. V., twenty-five years, married, one miscarriage. Anteflexion; cervical canal patulous; bloody discharge. Menorrhagia since miscarriage two months previously. Curette, without discovering placental fragments. Cured by iodine locally, frequently repeated.

12. H. M., aged twenty-four, widow, one child. Profuse menstruation. Uterus three inches deep. Chronic endometritis. Long ineffectual local treatment by iodine, ferri persulph., &c. 13th February, 1877, curette, over one dozen vegetations removed. Iodine repeated at intervals of one week for several weeks. Cure of endometritis and menorrhagia.

13. K. K., aged thirty-three, married, four children, six miscarriages; last four months previously. Probable retention of portion of placenta. Since miscarriage profuse menstruation, lasting sixteen days. 1st March, 1877, curette, large number of placental villosities

and polypoid vegetations removed. Tr. iodine. Cure.

14. Mrs. T., aged thirty-five, multipara. Patient of Dr. L. Weber. Reputed miscarriage in third month six weeks before; no physician present. Since then flowing profusely, and quite exsanguinated when seen in consultation, 23rd March, 1877. Had been curetted once before, but flowing still continued. Uterus enlarged, cervical canal wide open, blood oozing from gaping os. Wire curette, removal of nearly half a cupful of placental villosities, some as large as a bean. Tr. iodine. No further hæmorrhage. Rapid recovery.

15. A. B., aged thirty, married, three children, one miscarriage six months before. Uterus three inches deep, anteflexed. Since miscarriage profuse menstruation every two or three weeks, with offensive coagula. 15th March, 1877, curette, large number of placental shreds and vegetations. Iodine plug. 10th April, slight mucopurulent dis-

charge; otherwise well. Last menstruation normal.

16. F. W., aged thirty, married, three children, one miscarriage eleven weeks before. Flowing since, although nursing last child. 26th March, 1877, curette, placental fragments. Iodine. Cure.

17. A. T., aged forty-two, same patient as case 5. Has had two miscarriages since then; last nine months before. Now flowing since two weeks, probably miscarriage at six weeks. Uteri 3½ inches; external os gaping. Ergot and other hæmostatics in vain. 12th April, 1877, curette, small villous masses removed, of doubtful nature, from posterior wall of uterus, probably placenta at very early

stage. Tr. iodine repeated at intervals. Cure.

18. P. N., aged thirty-eight, married, six children, two miscarriages; last $4\frac{1}{2}$ months before. Menstruation profuse for several years, frequently lasting ten to fourteen days. Cervical canal gaping, containing enlarged Nabothian follicles. Uterus $2\frac{1}{2}$ inches deep, enlarged; ovaries congested. 9th July, 1877, curette, about two dozen large polypoid vegetations removed. Tr. iodine. 19th July, iodine repeated. No further menorrhagia.

19. B. F., aged forty-four, married, ten children, last five years before. Since then hæmorrhagia every two weeks. 16th July, 1877,

curette, vegetations. Iodine. Cure.

20. F. L., aged thirty-five, married, five children, last thirteen months before. Since ten months, menorrhagia every two weeks. External os gaping, internal os narrow. 30th July, 1877, curette, about half a dozen vegetations removed; iodine. Next menstruation still profuse. 23rd August, curette repeated, several more vegetations removed. Cure.

21. B. M., aged twenty-seven, married, twins four years ago. Since three years, profuse menstruation, lasting the greater part of the month. 21st August, 1877, flowing, external and internal os patulous; curette, about one dozen vegetations removed, one as large as a pea; iodine, 23rd August. Hæmorrhage has entirely ceased. 27th, still no hæmorrhage. Cure.

22. M. G., aged twenty-five, married, one child five years old. Since three months, menorrhagia, cervical canal gaping. 1st October, 1877, curette, only two vegetations removed; iodine. Next

menstruation moderate.

23. A. M., aged thirty-eight, married, five children, last $1\frac{1}{2}$ years ago. Since then profuse menstruation, lasting nine days and longer; in the intervals leucorrhoea. Uterus retroverted and enlarged when first seen 10th December, 1877. Mucopurulent discharge, bilateral laceration of cervix, eversion of lips. The curette removed a large quantity or pulpy shreds; tr. iodine. Next menstruation just over, lasted only ten days, and was moderate. Operation of cervix advised.

24. R. S., aged twenty-seven, married nine years, ten children, last two years ago. Since then menorrhagia ten days, in intervals, greenish mucopurulent discharge. 18th December, 1877, curette, large number of vegetations and shreds; iodine. Menstruation last week in December, five days, moderate.

25. F. S., aged thirty-one, married, six children, one miscarriage three months ago, flowing since. 18th December, 1877, curette removed a piece of placenta of the size of a large bean; iodine. Immediate complete arrest of hæmorrhage, which had not returned to

date.

It will be seen that only in ten of the twenty-five cases did vegetations prove to be the chief exciting cause of the hæmorrhage, while by chance thirteen instances of adherent placental villosities came under my care. Ordinarily the endometritic products predominate in practice. In five of these cases both placental remnants and vegetations were found, but the cases are classed under the former category, as the hæmorrhage came on shortly after a miscarriage, and the adherent portions of the placenta undoubtedly were the chief exciting cause. In the two remaining cases no cause could be found for the hæmorrhage, and they were cured by the repeated application of iodine. In twenty-one cases tincture of iodine was applied to

the endometrium after the curetting. In two cases only was it necessary to repeat the curetting once. All the cases recovered without an untoward symptom. Only one operation was performed at the house of the patient; all the others at my office or in the dispensary.

Besides these cases, I have employed the curette a number of times for merely diagnostic purposes. In no case did ill effects follow its

application.

In one case of profuse menorrhagia apparently following chronic endometritis, which came under my care before I was acquainted with the curette, I found myself compelled, after ineffectually applying tr. iodine, liq. ferr. persulph., and pure carbolic acid to the endometrium, to cauterize the latter with fuming nitric acid introduced through a glass tube. This arrested the hæmorrhage permanently, but was attended with considerable inconvenience, such as previous dilatation of the cervix with sponge-tent, confinement of the patient to bed, with iced compresses on the abdomen for several days as a prophylactic measure against inflammatory reaction (which, by the way, I now no longer fear after applying nitric acid to the endometrium), constitutional shock, &c. I am convinced that with the wire curette the patient could have been cured at once without any preparation whatever, and little or no after-treatment.

In two cases of adherence and retention of the greater portion of the placenta for several days after miscarriage at the third month, I found it advisable to remove the ragged and firmly adherent placental fragments by means of Simon's sharp scoop, which, after dulling the edge somewhat, I passed gently over the endometrium until all surface-roughness had disappeared. The uterine cavity was then injected with carbolized ice-water. In another case I removed a large fibrinous polypus formed on the placental site three months after the expulsion of a hydatid mole with Simon's scoop. All these patients recovered without a bad symptom.

These cases I mention merely to show in what instances of placental retention the use of the sharp curette may be justifiable; for the removal of the small placental nodules, however, referred to in the cases described above, which, small though they be, are often the cause of severe and uncontrollable hæmorrhage, the wire curette

amply suffices.

It will not be denied that cases of menorrhagia, calling for the wire curette, such as I have cited in this paper, are of common occurrence, and that they fall into the hands of the general practitioner even more frequently, certainly at an earlier stage, than into those of the specialist. I trust I have shown that it is not necessary (as to my own knowledge is constantly done) to subject these patients to all kinds of useless internal and local hæmostatic remedies before finally sending them in an enfeebled and discouraged state to the specialist, who easily and speedily cures them by the use of an instrument which could be as easily, safely, and speedily employed by the family physician at the very outset of the case—provided, of course, he

possess the requisite amount of gynecological experience to make the diagnosis. I will paraphrase Atthill by saying, that it is the "manifest duty" of the physician "in a case of menorrhagia in an otherwise healthy woman," proved by careful examination not to depend on an obvious uterine or vaginal disease, not to "dilate the cervix and os internum," as he advises, but to introduce the wire curette "with the view of determining what the condition of the interior of the woman be."* That the curette will then remove the difficulty, if found to consist in one of the conditions already pointed out, much more gently and quite as effectually as the nitric acid of Atthill, I have already stated. In my opinion the wire curette should occupy a place in the modern gynecological armamentarium, second only to speculum, sound, and tenaculum.

In conclusion, let me summarize its advantages as follows:—1. Ease of application, requiring no previous preparation of the parts; 2. Almost complete harmlessness; and, 3. Efficiency, rendering after-

treatment usually unnecessary.

Dr. Keiller considered the communication now read exceedingly interesting. Dr. Mundé had favoured the Society with an excellentlywritten paper on a subject very seldom referred to by authors; it is full of practical import, which, however, demands careful consideration. He had, for many years past, been in the habit of using an instrument for diagnostic and curative purposes not at all unlike that referred to in the present paper. The resemblance was so striking that he would be glad to exhibit it along with other instruments in his possession which he had constructed and almost daily used in practice. He thought the curette a useful instrument in some cases, though he would not be inclined to use it so freely as Dr. Mundé seemed in the habit of doing. It could not always be applied with such ease as described, without previous dilatation of the passages. He thought that, in all cases where we could introduce the finger to examine the interior of the uterus, it was desirable and preferable to do so. In most of the cases of such a nature as Dr. Mundé related, he was in the habit of having recourse to bimanual manipulation, and it was wonderful with what ease and completeness we could in this way investigate the uterine interior without any instrumental aid. He thought the curette proved useful in the same way as the uterine sound and such like instruments did sometimes. In the class of cases related by Dr. Mundé he had often found these of service. The subject of curettes and curetting was so important, in a practical point of view, that he would reserve further observations on the matter until a future meeting, when he would be happy to show the instruments he had referred to.

Professor Simpson thought that Dr. Mundé deserved a cordial vote of thanks for having sent the Society a paper of such interest

^{*} Loc. cit., p. 83.

and high practical value. The subject of the use of such an instrument as that described by Dr. Mundé was a most important and practical one. To him the use of a curette such as this for diagnostic purposes, to determine the conditions producing menorrhagia, was quite new. In his own practice, he confessed that, in many cases of menorrhagia, he so far guessed at the exact pathological condition of the interior of the uterus in the first instance at all events; and where the sound did not afford definite information, he usually practised dilatation of the cervix and digital examination, when the ordinary velvety condition of the endometrium, or villosities of some kind were, for the most part, easily recognised. He thought it an important step in advance in gynecological practice, that, with an instrument of this sort, which could be as easily introduced as a sound, we could arrive at a diagnosis of the exact condition of the uterine cavity. He believed the value of the dull wire curette in chronic endometritis with fungosities must be great. He had not the fear of Récamier's curette expressed by some gynecologists, for he had used it for many years without any bad effect; previous dilatation of the os, however, was had recourse to. He could not agree with Dr. Mundé as to the need of this instrument in the removal of placental fragments; he preferred taking away the mass with the finger, previously dilating the os if necessary. He would, however, be inclined to give this instrument a fair trial. As to cases of sarcoma, these were rare, and all required previous dilatation; and, in that case, it was better, in his opinion, to use Sims's or Récamier's instrument.

Dr. Angus Macdonald had listened with much interest to the paper and discussion. In the present state of our knowledge of endometritis, we were so much in the dark as to its real nature and treatment that he thought that all contributions which promised to elucidate the subject were worthy of the most careful attention and serious consideration of all gynecologists. He thought, moreover, that if the dull wire curette were as useful as it appeared safe, its introduction was a step in the right direction, and certainly a more promising and less dangerous kind of treatment than that which was usually recommended of introducing caustics, fluid or solid, into the endometrium. Lately, he had observed, in the Centralblatt für Gynäcologie, that Dr. Böeter, of Berlin, advises the use of Simon's curette-first diagnostically, and then, if found necessary, for therapeutical purposes without previously dilating the cervix uteri. Since reading his paper he had been anxious to have a favourable opportunity of in this way examining the interior of the uterus, and testing the practicability of the proposal. In a case of severe bleeding, continuing daily for three or four months after abortion, and reducing the patient to the point of death by anæmia, which had come under his care in the Royal Infirmary, he had, contrary to usual experience of such cases, found that the cervix dilated with extreme difficulty. To avoid the possible risks of further dilatation

of this extremely rigid cervix, although the cavity would permit the finger to pass into the uterus, he resolved on using Simon's curette tentatively in the first instance; and, on carefully scraping from above downwards the cavity of the uterus, he found on the left and anterior wall nothing, but on the right and posterior wall the instrument each time filled with granulations. He observed that only when passing the os internum pain was produced; but even that was not at all great. The patient was not chloroformed. The instrument was introduced and removed ten or fifteen times before the granular masses were completely removed. Bleeding, though free at first, entirely ceased after the operation. He was inclined to consider this instrument of Thomas's, so well described by Dr. Mundé, as a useful one, and he hailed with pleasure its introduction—first, as a useful diagnostic, and, secondly, as a therapeutic agent.

After a few observations from Dr. Croom, the discussion closed.

OBSTETRICAL SOCIETY OF DUBLIN.

MR. DARBY, President, in the Chair. Meeting, Saturday, January 12th, 1878.

The late Dr. Stokes.

Dr. M'CLINTOCK.—Sir, I think we should be wanting in self-respect if we allowed this, the first meeting of our Society that has taken place since a great and illustrious member of the medical professional of Dublin has been removed from amongst us, to pass without a resolution on the subject. I therefore submit the following resolution to this meeting for adoption in reference to the decease of Dr. Stokes:—"Resolved, that this Society, in common with the other medical and scientific bodies of this city, desires to give public expression to its deep regret at the decease of William Stokes, M.D., Regius Professor of Physic in the University of Dublin, and to record its testimony to his pre-eminent abilities as a physician, to the distinguished services he has rendered to the Medical School of Dublin, and to his great qualities of head and heart, and that the sincere condolence of the members of the Society be respectfully communicated to his family."

Dr. ROBERT M'DONNELL, President of the College of Surgeons.—Sir, it is not necessary to say more in seconding this resolution, than that I do so most heartily and sincerely.—The resolution was passed

in solemn silence.

Multilocular Ovarian Tumour.

Dr. Mason.—This specimen which I exhibit to the Society is one of a multilocular ovarian tumour, which was removed this morning

by Dr. Kidd, from a patient in the Coombe Hospital. It presents some points of interest. When the abdomen was opened and the tumour exposed, a thick round band was found running obliquely on the surface of the tumour, from about midway between the umbilicus and pubes downwards, and to the right side into the true pelvis. was not at first evident what this was, but when fully exposed it was found to be the pedicle. The tumour was universally adherent, and had become rotated on an oblique axis towards the left, so that the attachment of the pedicle which was originally on the right side of the tumour, had been drawn upwards and forwards to the mesial line, till its insertion was midway between the umbilicus and the pubes. This rotation was probably caused by the contraction of the lymph forming old adhesions; it was also adherent to the small intestines, and throughout the true pelvis. At the left side of the tumour there was a small piece of bone about an inch square in the cyst wall. Portions of bone are often found in piliferous tumours of the ovary, but, I believe, are very seldom found in true ovarian cysts. A large amount of the omentum was also adherent to the tumour, and had to be cut off and ligatured. During her last two menstrual periods this woman suffered very severe attacks of peritonitis; the last of these occurred on Christmas-day, and when we saw her that morning we believed that she would not live; however, she got over them, and Dr. Kidd performed the operation as soon as possible afterwards. According to her history the tumour was eight months growing. She was a servant by occupation, and in every other respect was tolerably healthy, though greatly emaciated.

Successful Cases of Transfusion.

Dr. M'CLINTOCK.—Early in the month of last September, I was brought a distance of several miles from Dublin to see a lady who had been taken with the pains of her fourth labour about nine o'clock in the morning. I did not reach her bedside until near two o'clock the same day, when her state was most alarming. After the labour pains had set in, it was ascertained by the attendant that the presentation was preternatural. About eleven o'clock hæmorrhage, of a very profuse kind, nearly came on. When I saw her, at two o'clock in the afternoon, she was insensible, and almost pulseless, and was reported to have had two slight convulsive seizures. When I examined the bed I found that she was surrounded by blood, and the entire bedding and bed-linen were saturated with the same. On making an internal examination, I found a leg in the vagina. With very little effort the child was extracted, but it was perfectly dead; it had certainly been alive within a very few hours. The placenta came off with slight pressure, and there was no more hæmorrhage. She rallied a little just after the child was born, and made anxious but feeble inquiries as to its state; and gathering from the evasive replies given to her that life was extinct, she was so greatly affected

by the disappointment that she seemed utterly overpowered and prostrated, and never spoke for several hours afterwards. We at once set about putting dry linen next her, applying warm jars, administering stimulants, and so forth, and every available means were used in order to try to bring about reanimation. There was no hæmorrhage from the time of delivery, and the uterus contracted tolerably well. She got brandy both by the mouth and by the rectum, and heat was applied all over the surface of the body. The trunk and lower limbs were elevated, and the head kept very low; and, in addition, I administered hypodermic injections of sulphuric ether, which appeared to impart a momentary increase of strength and vitality. For five or six hours she remained in this state, fluctuating between life and death, with scarcefy a pulse at the wrist, while all the remedies were being patiently and perseveringly applied, in order to try and bring about reaction, but without any real improvement in her condition being effected. She remained perfectly insensible and never spoke, the surface of her body being cold, and her pulse at times barely perceptible at the wrist. After having waited for six hours, in the hope of a change for the better, and no improvement taking place, it seemed vain to expect that unassisted nature could rally her. It was then thought that the only chance that remained to her was the operation of transfusion, and immediately a messenger was despatched to request Dr. M'Donnell to come out with the necessary apparatus. He reached the patient's bedside about eleven o'clock, that is, nine hours after she had been delivered, her condition being such as I have just now described. Blood was at once obtained from the patient's husband, defibrinated, and injected into the arm without difficulty, except that, owing to the extremely anæmic state of the body, it was not easy, even after the integuments had been divided, to distinguish a vein. However, this difficulty was successfully overcome, and about ten ounces of defibrinated blood injected into the right arm. The patient was apparently quite insensible, and offered no resistance to the operation, by jactitation or in any other way. While the blood was being injected into the arm, I kept a careful note of the pulse at the wrist; and, after a few ounces had been injected, I discovered a slight improvement in the condition of the pulse. Nothing untoward occurred during the operation; and, after the blood had been all injected, the arm was bound up, her pulse being then somewhat further improved; and, in the course of a few hours subsequently, decided indications of reaction began to show themselves, and at the end of about twelve hours the restoration was complete. From that time forward nothing could go on better or more satisfactory than her convalescence in every respect. Besides Dr. M'Donnell and myself, there were also present at the operation Dr. Malachy Burke and Dr. Stanistreet, of Malahide. is, perhaps, hardly necessary to add that, in the performance of the operation, Dr. M'Donnell used the apparatus called after him, and of which he published a description in The Dublin Medical Journal.

November, 1870. I may further remark that the above case bears a strong resemblance, in some of its features, to the one recorded by the late Dr. Beatty (Dublin Medical Journal, May, 1870), the successful result of which brought the operation of transfusion into so much repute here. In Dr. Beatty's case the operation was not resorted to for fourteen hours after delivery; and in the case above related it was done nine hours after delivery. This is a very important feature in both the cases, and shows that, in each of them, ample time was given for the natural powers to rally, if such had been possible. Consequently, these two cases may be regarded as affording the strongest evidence to the value of transfusion, after all other known means had been fruitlessly tried to rekindle the spark of life.

Dr. MACAN read the following paper by Dr. Purefox.—By the kind permission of Dr. Atthill, I am enabled to bring before the Society the particulars of the first successful case of transfusion, in the Rotunda Hospital, which occurred last June, while I was in charge of the institution. The patient, a multipara, was admitted at nine A.M. on the 2nd of June, in a most alarming state of prostration from hæmorrhage, her face being quite blanched and her pulse weak and rapid. The os was only three-fifths dilated, and the membranes still unruptured. She was scarcely undressed, however, when a large quantity of liquor amnii, mixed with blood, escaped, and the head could be readily felt presenting. A binder was applied, and our utmost efforts were directed to supporting the patient's strength and exciting uterine action, by repeated injections (subcutaneous) of ergot and ether, in the manner so ably advocated by my friend, Dr. Macan. As the uterus responded very feebly to these various stimuli, and blood was still escaping in large quantity, it became manifest some more efficient means of hastening delivery must be tried in order to save her life, and, after a brief consultation with Dr. M'Clintock, I determined to try the forceps, though the undilated os rendered their application very difficult, and invested with no little danger the speedy extraction of the child. Dr. M'Clintock afforded me valuable aid by supporting the anterior portion of the cervix while I exerted traction, and we soon had the happiness of finding the os yield to our united efforts, after which delivery was easily completed without delay. The hæmorrhage, however, though arrested for a few minutes, returned to such an extent that perchloride of iron was injected with the usual good effect. Brandy and beef-tea were given by the rectum; a binder was applied, and, at Dr. M'Clintock's suggestion, an elastic bandage was rolled round each leg from the foot to the thigh; and, at the same time, the lower end of the bed was raised. As the bandages caused pain they were removed after the lapse of about half an hour, but I have no doubt as to their good effect while in use. In about an hour afterwards blood again flowed in considerable quantity from the vagina, and, almost in despair, I injected perchloride of iron into the vagina simply, and changed the binder. Some draining continued after this

for awhile; but, though it had ceased, I found her condition at 1.30 so precarious that I sent for Dr. M'Donnell, who, with his wonted kindness, was speedily present; and, as there was now no radial pulse, transfusion was immediately determined on, and Mr. Donaldson, one of our most diligent students, at once volunteered the necessary supply of blood—an act of kindness not a little enhanced by the fact that he was not by any means of a plethoric habit. Immediately afterwards the pulse could be felt at the wrist; from this time no immediate cause for apprehension arose. The vomiting which ensued was checked by using ice and nourishment, and stimulants were given by the rectum. At ten P.M. her temperature was 100°:3, and pulse 112. At nine A.M. next morning I found the pulse and temperature both 100; the woman had slept and made no complaint whatever. In two hours afterwards she had a rigor, and the pulse rose to 150, and temperature 104°3. Next day pulse and temperature had both fallen, and continued to do so steadily until her convalescence, which was fairly established in about two weeks.

Dr. M'Donnell, President of the College of Surgeons.—As I was the person who performed the operations in both cases, perhaps I may be allowed to speak first in this discussion. I am extremely obliged to Dr. M'Clintock for his statement, which was as clear and graphic as if it had been written. I have also to thank Dr. Purefor for the case which he has brought forward. I am well aware that doubt must always exist as to whether individuals operated upon under such circumstances as have been so well described might not have recovered even though the operation of transfusion had never been performed. This doubt, however, may be thrown over the effect of any remedial agent as well as this. But I wish to refer to the cases which have occurred in my hands to prove another point. It has been asserted that ill effects-very grave consequences-follow the injection of defibrinated blood. I know no means of refuting this assertion, save looking to the facts. Now I can say that in no one of the cases in which I have performed this operation were there ill after-consequences which could be attributed to it. If it failed, it failed at the time because death was imminent; in no single instance where recovery took place was there bloody urine, or extravasations such as have been stated to occur-in no instance was there, in fact. any alarming symptom to interfere with speedy convalescence. hope at some future time to lay before the Society a fuller statement of the cases in which I have had the good fortune to have performed the operation with success.

The President.—Gentlemen, I think it reflects great credit upon Irish surgery that we should have been so successful with this method of transfusion. Other methods have been tried before, but never with such success as to make the operation one to be much relied on. I think it right to state that I saw Dr. Roussell's instrument used. I was at the last meeting of the British Medical Association in Man-

chester, and heard Dr. Roussell himself describe it, and also Dr. Bennett,

of London; and I ventured to say at the time that the instrument appeared to me to be so very complicated that I feared it would be almost impossible to use it in the hurry that takes place in cases of uterine hæmorrhage, where there is no time to be lost. I afterwards had an opportunity of seeing the instrument applied by a very experienced and apparently very expert hospital surgeon, a man of high reputation, who had the advantage of having other surgeons as good as himself to assist him. He had used the instrument three times previously. On this occasion I observed that it failed in two different ways. One failure was in respect of what I must call the stabbing operation which it involves, in the first instance, for the opening of the vein from whence the supply of blood is to be derived. This is done by a knife with a spring like the fleams with which they bleed horses. A man was got to submit to the operation. There was no difficulty in finding a very large vein; and after the stabbing process had been six times repeated, in two places, it did not open the vein, which rolled away from the lancet every time, although on each occasion the lancet was directly over the vein. Then that man got tired of it, and another volunteered, and after three or four attempts the vein of this second patient was opened. Then the instrument was set to work, and about a drachm of blood was introduced by the stroke of the pump into the vein of the lady; but then the blood coagulated in the small valves of the instrument, and not another drop could be injected. I believe that on this occasion the instrument was used with as much manual skill as Dr. Roussell himself could have employed. The operation was performed in a most painstaking manner, both the chief surgeon and his assistants showing the greatest intelligence and skill.

Dr. RICHARDSON.—Did you time the operation?

The President.—I think we were half an hour over the patient.

Dr. RICHARDSON.—That was a serious loss of time.

The President.—The gentleman using the instrument told me that he would write telling me the result of other trials; and he

informed me that it failed in two other cases.

Dr. Henry Kennedy.—I agree with Dr. M'Donnell as to the propriety of performing this operation even in cases in which we believe that the patient is likely to go on to death. I may remark that three or four years since a most valuable communication was brought forward in London showing that during a cholera epidemic transfusion had been employed with great success. As much as eighty ounces of fluid was thrown in in several cases, and with perfect success, and the patients recovered after they had been pulseless for hours. The only case in which I was ever engaged in the way of experiment upon a living animal bears out the view to which Dr. M'Donnell has alluded. A dog was bled from the jugular vein until he was apparently dead, and lay on his side. A quantity of tepid water was then thrown in, and to my amazement the dog got up and was able to stagger about, and finally recovered. I am quite sure that under the

circumstances to which Dr. M'Donnell has alluded we would be quite justified in throwing in tepid water.

Dr. Macan moved the adjournment of the discussion to the next

meeting, which was seconded by Dr. CRANNY, and agreed to.

Obstetric Summary.

A Case of Tubo-Uterine Pregnancy.

Dr. Clement Cleveland relates a case of so-called interstitial pregnancy, in which the ovum was situated in the portion of the Fallopian tube passing through the uterine wall. The patient was twenty-five years old, and was admitted into the Charity Hospital, New York, on January 25th, 1878. She believed herself to be advanced to between the fourth and five month of pregnancy, and stated that three or four days before admission, she slipped down two or three steps while descending a staircase, and immediately after felt pain in the left iliac and also in the lumbar region. On examination, a spot of tenderness was discovered over the left horn of the uterus, and the organ itself was found to be enlarged. She was suffering from severe pain and vomiting; pulse 100°, small and intermittent; no elevation of temperature or tympanites. In the evening of the second day, there was tenderness over the surface of the enlarged uterus; pulse 140, small, thready, and intermittent; temperature 97°. She died quietly and suddenly at 11.30 P.M. on the third day.

On opening the abdominal cavity, a large blood-clot was found, occupying its lower half. Examination disclosed a male feetus, nine inches in length, and weighing seven ounces, lying nearly opposite the umbilicus. It was surrounded by a soft dark blood-clot, with a few cords of small intestine overlying. The cord was traced through a ragged laceration, five inches long, situated in the left corner of the

uterus.

On closer inspection of the uterus and appendages after removal, the position of the sac was found to be interstitial, in the left corner of the uterus, situated between the ligament of the ovary, and the left Fallopian tube. The ligament of the ovary was pushed downward and backward, and the broad ligament put on a stretch, and elevated out of the pelvic cavity. The Fallopian tube ran over the anterior portion of the sac, and its canal was traced throughout, unlined by any decidua. The uterine opening of the canal terminated within the sac, about one and a half inches below the border of the laceration.

The round ligament came off at the outer or lower border of the sac. The sac measured laterally six inches and vertically five and a half inches. The thickness of the walls on the anterior surface, corresponding with the body of the uterus, was one quarter of an inch; at the lacerated portion barely one-eighth of an inch. The

placenta still remained attached to the inner wall at the base of the sac, and there were shown at two or three points large blood-clots between the inner wall of the sac and the placenta. At the left extremity of the laceration above mentioned, for one and a half inches, there was a band of the wall intact. Then there was a second laceration, through which a portion of placenta, with a clot attached to its surface, protruded. There was also hæmorrhage beneath the peritoneum, over the superior and left borders of the sac. The weight of the blood-clots collected was two pounds, and that of the blood sponged out was estimated at one pound more. The left ovary contained the corpus luteum of pregnancy, three-quarters of an inch in diameter, containing a central cyst with clear contents. The cyst was \frac{1}{4} inch in diameter, with its walls convoluted. The length of the uterus was $6\frac{1}{2}$ inches, $4\frac{3}{4}$ of which belonged to the body and left cornu and $1\frac{3}{4}$ to the cervix. The muscular walls were about one inch thick. The cavity of the body was three inches long, and lined with decidua about \(\frac{1}{4} \) inch thick and intact. The left cornu was hypertrophied and dilated. The cervix contained the usual mucous plug of pregnancy. There was no evidence of recent peritonitis.— American Fournal of Obstetrics, April, 1878.

Gynæcic Summary.

The Antiseptic Method in Ovariotomy.

Dr. Carl Schröder, Professor of Midwifery at Berlin, reports, in the Berliner Klin. Woch. for 10th March, on the results of fifty of what he terms "Listerian Ovariotomies," performed in Berlin between 25th May, 1876, and 24th February 1878. The particulars of each case are exhibited in a tabular form. The results are in the highest degree favourable, for of the fifty women operated upon, forty recovered. Three of the ten deaths also did not depend upon the operation, but occurred in consequence of the spread of cancer on the tenth, nineteenth, and forty-fifth days respectively, and hence must not be taken into account as unfavourable to the prognosis of the operation. As, on the other hand, they cannot be regarded as examples of its favourable issue, it will be the best course to remove them altogether from consideration, leaving the entire number of operations forty-seven, with seven deaths; therefore, 14'9 per cent. deaths and 85'1 per cent. recoveries. When the table is examined, these fatal cases will be found to be unequally distributed, for (abstracting the three cases of cancer) in the first twenty-four cases six deaths occurred, and only one in the last twenty-three cases. This, perhaps, may seem to confirm the frequently entertained opinion that the results become more favourable with the more frequent practice of the operation. But in Professor Schröder's opinion a more correct explanation is found in the fact that as infection is almost the exclusive cause of death after ovariotomy, the result depends upon the external conditions under which the operation is performed. With absolute certainty it may be stated that the results will be good in proportion as infection can be prevented.

In reference to where the operations were executed, it is found that of thirty-three operations performed in the Lying-in Hospital only one proved fatal—i.e., 3 per cent.; while of the fourteen executed either at the patient's house or in the Charité Hospital, six (or 43 per cent.) terminated fatally. This extraordinary success in the operations executed in the Lying-in Hospital must surprise every one, and most of all those who are acquainted with the conditions of this establishment. Converted from what was a private house, and situated badly as regards sanitary conditions, it is always overcrowded, so that its normal number of admissions is very commonly exceeded by one-half or more. It is also the receptacle for all the most difficult and dangerous cases occurring in Berlin, women being frequently admitted with stinking secretions, or with the remains of an abortion in a state of putrefaction. Isolated cases of puerperal fever occurring from time to time under these circumstances are unavoidable. One would think that a more unfavourable place for the performance of ovariotomy could not easily be found; and yet only one case out of thirty-three terminated fatally, and this not from infection, but from what may be called an unlucky accident—the rupture of a hæmatocele occurring on the nineteenth day. Adding the three cases of cancer, there were thirty-six women operated upon without any infectious symptoms having occurred. The key to this riddle is that in a well-managed institution the control over persons and implements is so complete that those who have been operated upon can be guarded against the material of infection with the greatest certainty. This will become intelligible after a short description of what is done with regard to operations at this hospital. The operations are executed in private rooms, into which lying-in women are never admitted, and patients with suppuration only exceptionally. All the instruments required for an operation are brought freshly cleaned from the instrument-maker and placed in a 5 per cent. carbolic acid solution. The sponges are absolutely new, and are most carefully cleansed and scalded by the superintending midwife the day before, and are placed during the night in the carbolic acid solution. For the operation itself five persons are employed besides the chloroform administrator. Only the operator and an assistant come in contact with the wound; a second assistant sees to the instruments; the chief midwife mixes the solutions and superintends their employment; and a nurse stands beside the operator with a bowl filled with the solution. No one among others present must do anything but look on. The head midwife has the general superintendence of the room, and is directed to keep herself away from all sources of infection. The nurse confines her attention to ovariotomy patients, and does not come into contact with other patients or lying-in women.

"My assistants and myself employ the most painstaking care in the removal of all infective material. The operations are always performed in the morning, before coming in contact with other patients—at half-past eight in the summer, and as soon as it is sufficiently light in the winter. After taking a bath on getting up, I put on clothes that are free from all infectious material, and having washed in carbolic acid solution, proceed to the operation. At least half an hour before this the spray has been distributed in the room; and after the patient has been washed in a pure atmosphere, the operation is commenced with clean hands and instruments. Operating in this manner, one acquires quite new ideas with regard to injuries of the peritoneum, becoming assured that it is possessed in a remarkable degree of the peculiarity of being able to localise inflammation. We may do what we will with the peritoneum—cut it, tear it in pieces, crush it, burn it, tear it off—and yet never is the classic picture of general peritonitis produced. The injured parts constantly unite with the neighbouring portions of the peritoneum; and even foreign bodies, such as blood, portions of tumours, ligatures, &c., become capsulated by local exudations. The portrait known as general peritonitis is really that of septic peritonitis. If the infectious material be kept away, the opening of the peritoneal cavity is a procedure entirely devoid of danger, and an act of little consequence. Even after difficult and prolonged operations, in which the peritoneum has been injured over a great extent of surface, there is but slight reaction. The pulse is only somewhat quickened, to 90 or 100, and the temperature rises only to about 37°.8 C., and exceptionally on the first evening to somewhat above 38°. It not seldom remains absolutely normal. Immediately after the operation, as a rule, the temperature sinks very considerably; but although I acknowledge Wegner's researches on this subject to be of importance, I cannot agree with him as to the danger of this decline of temperature. Patients go on perfectly well with a temperature of 35°; and in no one case, although at various times I have operated during collapse, have I ever observed alarming symptoms.

"Vomiting is very frequent on the day of the operation, but it is caused by the chloroform, and lasts only exceptionally until the next day. Intense thirst is constantly present, but pain is absent. On the second or third day a good appetite appears, and the patients comport themselves very much as healthy persons would if confined to bed, requiring no special nursing. The occlusion-bandage is left on untouched for nine days. On the tenth it is removed under spray, as are also the ligatures. The wound is found to be united by primary intention, pus being nowhere visible. This is not exceptional, but the regular course of things, as exhibited in almost all the cases operated upon during the later period. After very difficult operations, or the irritation caused by a sunken ligature, circumscribed exudations may occur that not unfrequently break into the intestinal canal. These do not induce fever, and cause scarcely any danger.

"By operating in the manner described, the danger is so slight

that the cases of death, excepting those from cancer, may almost be described as occurring from unfortunate accidents, as hæmorrhage from the pedicle or adhesions, wounds of the intestine, &c., it being always assumed that the access of infective material to the abdominal cavity has been effectually prevented. This is not an easy and simple matter; and in the possibility that occasionally, in spite of the most painstaking care, and in spite of all precautionary rules, infecting substances may still gain access to the cavity of the abdomen, lies, according to my convictions, the chief danger in opening the peritoneum. Of decidedly small importance are the difficulties of the case and the mode of executing the operation. Every one who looks through my table must admit that it would not be easy for a greater number of more difficult and more complicated operations to be found following each other in fifty consecutive cases; and yet the results are satisfactory, inasmuch as this series of the most complicated operations has had so favourable an issue. As regards the method, the subsidence of the pedicle is of importance, as its extraperitoneal attachment would render the carrying out of the Listerian procedure more difficult. Silken ligatures decidedly irritate, and yet I do not know how to dispense with them, as those made of catgut are not safe, and I have no trust in the actual cautery. Drainage of the abdomen, which I have employed only in one case, is never necessary, but sometimes is quite harmless. The great thing is the keeping away of infective material; and when this can be done, the mortality after ovariotomy is very small, so that it may be under 10, and apparently under 5 per cent. We may therefore confidently assert that 'Listerian ovariotomy' cures radically, with great certainty and but little danger, a disease of the most dangerous character, which is only curable by operation."—Medical Times and Gazette.

Kæberlé on Ovariotomy.

In an article published in the new Dictionnaire de Médicine et de Chirurgie Pratiques, M. Kæberlé gives full details of the special method which he adopts in ovariotomy. When the tumour is of considerable size, and capable of being notably reduced in volume by puncture, he regards it as essential to tap, as a preliminary measure, from five to ten days before the operation. Although the initial incision of the operation may be rendered thereby somewhat more difficult, he considers that the following advantages are gained —The walls of the cyst, as well as the abdominal walls, become thicker as they contract, and bleed less freely from any points of adhesion; the intestines partially resume their normal position and distension with gas; they thus remain better in place after the operation, and the abdomen is less retracted after being emptied, and so less prone to allow the entry of air; any œdema of the abdominal walls disappears; the effects of embarrassment of respiration and circulation, or of sudden diminution of pressure, are not added to the difficulties necessarily resulting from the operation.

The author regards the use of carbolic spray at the operation as only useful under circumstances in which it is impossible to secure absolute cleanliness without it. In a complicated ovariotomy, of long duration, in which the abdomen is widely opened, he thinks that the spray may prove rather a source of irritation than an element of success. He never himself makes use of the spray in any operations, and considers that he obtains as good, if not better, results than those surgeons who have recourse to it. If he requires a disinfecting fluid, he prefers a solution of sulphite of soda, of the strength of ten per cent. He admits, however, that in hospitals, where it is otherwise impossible to prevent the presence of septic influences, the use of the antiseptic method in ovariotomy has led to results incomparably superior to those previously obtained.

The author declares that the complete extirpation of an adherent ovarian cyst is always possible, and that in three hundred ovariotomies he has never left an operation uncompleted, notwithstanding difficulties which at first appeared insurmountable. When the cyst-wall is more or less fused with surrounding organs, as the intestines, the uterus, &c., his method is to make incisions perpendicular to the surface of the cyst, until its fibrous coating is reached, and then peel off the inner layers, leaving the outermost layer attached. In this

way he proceeds gradually until the pedicle is reached.

For the arrest of hæmorrhage from adhesions, M. Kæberlé very rarely finds it necessary to employ any ligature, but employs instead the hæmostatic forceps invented by himself, which have a joint not far from their extremity, and long handles with a catch so adjusted that a pressure of from six to eight kilogrammes is exercised upon the tissue seized. This forcible pressure condenses the tissues so as to form an obstacle to the passage of blood, and allows a clot to form. At the end of fifteen minutes hæmorrhage usually does not recur after removal of the forceps. In the case of vessels of the omentum, however, he finds that the action of the forceps is sometimes insufficient, unless they can be left in place for a very long time, and ligatures then become necessary. The use of ligatures cut short and dropped, the value of which has of late been so much demonstrated, he regards as not absolutely free from disadvantage, since they may give rise to purulent collections, and various consequent accidents. If it be necessary to use them, he prefers carbolised catgut.

M. Kæberlé treats the pedicle by the extra-peritoneal method. He encircles it by the wire of the serre-nœud invented by himself, an instrument on the principle of a small écraseur. Above the wire and in the same groove is placed, for additional security, a silk ligature. Above this again the pedicle is transfixed by a small trocar, and a steel rod, seven or eight centimetres in length, is passed through the canula, which is then withdrawn. The rod then holds the pedicle in place, the end of the serre-nœud and the silk ligature lying between the lips of the wound but external to the peritoneum. The serre-nœud is generally left until between the fifth and eighth day, but it

may be removed at once, if desired. The author considers this method as preferable to the use of the clamp, since, although it appears somewhat more complicated, it is applicable to all cases, whatever the dimensions of the pedicle. If it be desired to drop the pedicle, he recommends that it should be secured temporarily by the serre-nœud, and that carbolised catgut sutures should be used.

The author regards the plan of abdomino-vaginal drainage, in which the pouch of Douglas is pierced by a large trocar, and a long india-rubber tube carried from the lower angle of the wound and brought out at the vagina, with the view of facilitating irrigation, as dangerous and injurious in most cases. If drainage be used at all, he prefers to insert immediately above the pedicle a glass tube reaching down into the pouch of Douglas, and draw up the effused fluid with a syringe from time to time. This drainage he only thinks necessary in cases of chronic or suppurative peritonitis, or of profuse hæmorrhage. In ordinary cases, he considers that, so far from protecting from septicæmia, as Sims has supposed, it may itself become the cause of septicæmia and peritonitis. For the cleansing of the peritoneal cavity, the author prefers to use dry and perfectly clean linen napkins rather than sponges. Since adopting the use of linen for this purpose in 1874, he has had only ten deaths in eighty-four ovariotomies. In uniting the abdominal wound, he prefers not to include the peritoneum in the sutures, and contends that the importance attached to this measure by Mr. Spencer Wells is greatly exaggerated, since his own results have been fully as good, although he has never adopted it.—Annales de Gynécologie, April and May, 1878.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"On the Treatment of Rupture of the Female Perinæum." By George Granville Bantock, M.D., F.R.C.S. Edin. Churchill. 1878. "Milk Fever." By Arthur V. Macan, M.B., M.Ch. Dub., M.A.O. Dublin. 1878.

"On the Essential Pathology of Puerperal Eclampsia." By Angus Macdonald, M.D., F.R.C.P.E., F.R.S.E. Edinburgh: Oliver and

Boyd. 1878.

"Atlas of the Diseases of the Skin." Part I. By Balmanno Squire, M.B. Churchill. 1878.

Communications received from Dr. Aveling, Dr. Halton, Dr. Hayes, Dr. de Gorrequer Griffith, Mr. Balmanno Squire, and Dr. Godson.

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Original Communications.

ON DIGITAL DILATATION OF THE OS IN LABOUR.

By WILLIAM STEPHENSON, M.D., F.R.C.S.E. Regius Professor of Midwifery in the University, Aberdeen.

THE question which I propose to consider is, how far, and in what manner, may we with advantage aid the dilatation of the os by means of the examining fingers?

It will be observed the question has no reference to the accouchment force, where we desire to take the progress of the labour into our own hands, or where from pathological conditions we are forced to interfere. It is not interference that is contemplated, but only aid, in cases where, left alone, Nature would ultimately effect delivery, but with a greater expenditure of strength than is necessary or, it may be, safe. In a large proportion of cases no such aid is required, but many constantly occur, where it is evident that there is an expenditure of effort out of proportion to the work done, and where, by timely and properly directed aid, the patient can be saved much unnecessary, if not injurious, suffering.

There are, I believe, few practitioners of experience who do not employ, at times, some form of digital dilatation in the first stage of labour. In the manipulation necessary to complete the diagnosis, it is a common experience that the os is thereby often sensibly enlarged, and the experience so

gained leads one to employ more direct effort towards dilatation, when the natural process proves tardy. The method of applying the aid varies, but there are few who have not adopted some mode, and who have not found that a gentle dilating force may in many cases be employed with advantage.

If we are to judge however by our text-books, digital aid to dilatation has failed to gain any position in the obstetric art. In some of the older writers, in the beginning of the century, the subject is discussed; but in recent standard works it may be said to have been entirely dropped, while vet they faithfully retain, in almost stereotyped form, bloodletting, baths, belladonna, and like remedies, which no one now ever thinks of using.

Dr. Playfair alone, in his recent work refers to the question, and his remarks I would take as an introduction to the subject. He says:

"Artificial dilatation of the cervix by the finger has often been recommended, and has been the subject of much discussion, especially in the Edinburgh school, where it was formerly commonly employed. It is capable of being very useful, but it may also do much injury when roughly and injuriously used. The class of cases in which it is most serviceable are those in which the liquor amnii has been long evacuated, and in which the head, covered by the tightly stretched cervix, has descended low in the pelvic cavity. Under these circumstances, if the finger be passed gently within the os during a pain, and its margin pressed upwards and over the head, as it were, while the contraction lasts, the progress of the case may be materially facilitated. This manœuvre if properly performed, I believe to be quite safe, and often of great value."*

It is certainly strange that the writer, who has thus, in a short compass, expressed the same views as Professor James Hamilton, of Edinburgh, and has found the treatment to be "quite safe and often of great value," should in a previous part of his work, when referring to the recommenda-

^{*} Dr. Playfair's "Midwifery," vol. ii. p. 20.

tions of Hamilton, have stated that they were "properly objected to by the great majority of obstetricians."*

What Dr. Hamilton recommended was not forcible dilatation by means of the introduction of the fingers, but only aid by means of "pressure on the resisting band of the uterus with the point of the finger during each successive pain." Also where the undilated uterus is being forced down into the pelvis during every pain, he says—"It is necessary by the application of two fingers to the edges of the os uteri, to retain the uterus, in situ, during every pain, till the head of the infant pass into the vagina. The practitioner is to confine his assistance to the attainment of this object alone, and he is most particularly to guard against any attempt at forcing open the os uteri."†

Professor Burns, of Glasgow (1824), in his eminently practical "Midwifery," which even yet well repays perusal, advocates the same views, but goes somewhat further, recommending when the cervix is "thin, lax, and soft" to aid dilatation by the introduction of the fingers within the os. The objections which have been brought against the recommendations of these writers are based on a misunderstanding or ignorance of what is really taught by them.

A sound principle of treatment is laid down by Dr. Burns in the following words:—" Unproductive action ought never to be allowed to continue so long as materially to impair the action of the womb. If we cannot safely render the action more efficient, we must endeavour to suspend it; by which the womb recruits, and the retarding cause may in the meantime be removed or cease to exist."

The selection of the line of treatment in protracted first stage, whether to aid or suspend action, is made to depend on the condition of the cervix and the character of the pains. If the cervix is not in a condition where ready dilatation can be expected, or the pains are irregular and unsatisfactory, delay is recommended. Dr. Hamilton in particular dwells on the evils which are liable to occur from long duration of

^{*} Ibid. vol. i. p. 331. † "Practical Observations on Various Subjects Relating to Midwifery." By James Hamilton, M.D. Edinburgh, 1840. Second Edition.

ineffectual pains in the early stage of labour. A clear conviction however, that labour has been in actual progress for some time, and a continuance of regular uterine contractions, are insisted upon by him as essential before any digital aid is warranted. Where the labour is doubtful or the pains irregular and feeble, opiate enemata are recommended.

In the next place, before digital aid is to be used, they clearly recognise that certain changes in the cervix must have taken place. It must be certain that the uterine action has begun to act directly on the parturient ring, and that its tissue be "thin and soft." Digital aid is therefore not to be employed, while yet the cervical canal is not wholly obliterated; or whilst the os is small and the lower uterine segment is not sufficiently expanded to permit of the presenting part coming in contact and engaging with the cervical tissue. Whilst these conditions exist, and interference is called for, bloodletting was the resource which naturally was most relied upon at the time they wrote. When this was inadmissible an opiate is to be given. They distinctly caution against anything like digital dilatation under such circumstances. Nowadays, we may read chloroform or chloral for bloodletting, and the majority of practitioners will concur in their views.

When the cervical tissue has become thinned and the os remains small, very gentle dilating action with the fingers will frequently succeed in making a considerable increase in the size of the os. This, when judiciously done, is not productive of any mischief. Roughly used it may be otherwise, but we speak only of its judicious use. It is sometimes necessary for the purpose of fuller diagnosis, and uterine action may thus be stimulated. Dr. Burns recommends it, but with due caution. This, however, I may remark, is not truly digital aid, for labour is not directly facilitated thereby, except it stimulates contraction, the tissue which has thus yielded to the pressure of the fingers, would as readily yield to the pressure from above, did there not exist some other obstacle to progress. The cause of the delay is not the thin tissue which yields so readily to the finger, but the want of dilatation of the internal os; or it may be that the delay is due to the membranes being still entire; abnormal direction of the axis of the uterus has also the effect of retarding the dilatation.

The condition under which digital aid can be most effectively and properly employed is when, after rupture of the membranes, the cervical tissue is stretched over the head, and it is specially necessitated when the cervix is being with each pain pushed down before the head instead of opening up and receding over it. Although differently expressed, this is what was more particularly referred to by Hamilton and Burns. "It is done best," says the latter, "by pressing on the anterior edge of the os uteri during a pain with two fingers, with such moderate force as shall not give additional pain, and shall appear to excite the natural dilatation as much as to produce mechanical opening. By doing this for several pains in succession, or occasionally during a pain at intervals, according to the effect produced and the disposition to yield, we shall soon have the os uteri completely dilated."

Such are the teachings of Professors Hamilton and Burns regarding digital dilatation of the os uteri. In justice to them I have given their opinions at some length, that it may be seen that these have not "properly been objected to by the great majority of obstetricians," that they inculcated the greatest caution and warn repeatedly against using force, and that they go no further than Dr. Playfair does himself in recommending a manœuvre which he properly believes "to be quite safe, and often of great value if properly performed."

There is, however, a deficiency in the recommendations as laid down by the above authors. The manœuvre may at one time be tried and found of great value, whilst at another it either fails simply or does harm. This is sufficient of itself to explain why it has been discredited by many who have tried it. The treatment as described takes no cognisance of the position of the fætal head, and being applied irrespective of the varying conditions in the normal mechanism of labour, it lacks the precision necessary for success. We aid when we can facilitate the normal move-

ments of the head, we but hinder or obstruct if we derange the mechanism.

When in normal labour the membranes are ruptured, whilst the os is not obliterated, the posterior part of the head clears the os first, the anterior being still held back by the rest of the cervical tissue. There is a clear gain by this movement, the head is more flexed, a smaller diameter is presented, and the rotation forward of the occiput becomes easy. This is the movement we must not disturb, but if possible facilitate. In aiding labour, therefore, at this stage the support and upward pressure must be exerted only so as to push, as it were, the lip of the cervix over the occiput; it must never be done over the forehead. A careful diagnosis of the position of the head must be made, and the direction of the support determined accordingly. The part selected should never be the anterior lip, as described by our authors. In the first position of the head the part corresponds with that opposite the left thyroid foramen, and comes readily to the fingers. In the second position it is opposite the right thyroid foramen. In the occipito-posterior position the treatment is carried out less readily, but can still be accomplished, the direction of the force being towards the corresponding iliosacral synchondrosis. The success of the manœuvre is dependent upon aiding the occiput to descend first. If then it be practised at haphazard, and always in the same direction, failure is certain to follow in many cases. By its improper use the anterior portion of the head may be enabled to lead, and the normal mechanism is disturbed. If the pressure be exerted at the side of the head, as it will be if directed immediately behind the pubes, dilatation does not take place, and the head is really held back. The pressure must be exerted only during a pain, and the patient be directed to bear well down. The efficiency of the uterine action is thereby greatly increased.

This method of aiding labour need not be confined to protracted cases; gentle and properly directed support is of advantage in all. The force employed need not be more than is represented by the word support. A due amount of chin-flexion is secured, and upon this depends the facility of

the subsequent rotation of the occiput. More especially is this of importance in the occipito-posterior positions; if attention be paid to secure early and full flexion of the chin no difficulty will be experienced in the rotation. Before it is possible in the latter cases to slip the cervix over the occiput an initial degree of chin-flexion is necessary. If the forepart of the head is on a lower level the occiput is beyond the range of the fingers, and the manœuvre is impossible. Aid may then be extended by pushing the forehead upwards during the interval of the pains and retaining it as far as possible in that position by pressure during the contraction of the uterine walls, and repeating this manœuvre until the posterior fontanelle can be felt.

Greater precision may be given to our opinions regarding the use of digital dilatation by the more recent advances of our knowledge regarding the changes which occur in the body and cervix of the uterus during the first stage of labour through the researches of Litzmann, Bandl, Braune, and Luschka. The lower uterine segment of the body of the uterus and the tissues of the cervix both undergo dilatation; but in the former the transverse expansion is associated with marked shrinking or shortening of its longitudinal diameter, whilst the latter is greatly stretched and lengthened. The division between the uterine segment and the cervix is what is known as the internal os, whilst the external os is what we recognise as the os of ordinary obstetric language. distance between these, as shown by Braune's frozen section, may be as much as four inches. In normal labour the dilatation of the internal and external os go on simultaneously, the former slightly in advance of the latter. This relation however may be deranged. The internal os may be fully dilated whilst the external is very small. We cannot however get any degree of dilatation of the external os without the previous opening of the internal. The opinion which I would advance is this: that digital dilatation can exert a beneficial action only upon the cervical tissue, we cannot by this means aid the expansion of the lower segment of the uterine walls. So long, therefore, as delay is associated with incomplete dilatation of the internal os digital interference

should not be employed; but when delay is due to want of dilatation of the external os whilst the expansion and retraction of the internal has well advanced, we may expect benefit from artificial means. The degree of dilatation of the internal os I believe we can estimate by the condition of the upper portion of the vagina. When the former is complete the latter also is fully expanded and drawn upwards. If the external os has not been simultaneously dilated, the cervical tissue will be felt stretching across like a diaphragm, with a varying degree of thickness and resistance. If however the internal os be not fully dilated the upper portion of the vagina will be found lax and attached near to the os, or curving in towards it. Digital dilatation will then have no beneficial effect unless it be by stimulating the uterine contraction. But when the diaphragm is developed it will yield to judicious gentle manipulation; if the os be small by a rotatory action of the fingers; when once half-way dilated, and the head in actual contact, by support and gentle pressure of the lip in the direction of the occiput. A clear conviction should also be established that the cause of delay is in the cervical tissue only, and not due to want of rupture of the membranes, or to malposition of the head, to abnormal direction of the uterine axis, or to narrowing of the pelvic brim. Many cases of tardy dilatation are due to these causes, and of course cannot be aided by artificial dilatation.

By care in diagnosis the time when digital dilatation may be employed with advantage can be readily determined, and if practised as I have indicated, with due regard to the mechanism of labour, it may be employed with precision and safety. It affords material aid, increases the effective character of the pains, insures and facilitates the normal movements of the head, and if properly employed is free from all danger to the patient. It is a proceeding, therefore, which merits recognition at the hands of obstetricians, more than it has hitherto received. By extending our aid in the first stage of labour by watching and furthering the normal mechanism, I am confident that we may very materially lessen the frequency with which in recent times instrumental interference is deemed necessary.

CASE OF OVARIAN TUMOUR

COMPLICATED BY CARDIAC AND RENAL DISEASE—OVARIOTOMY—DEATH.

By J. KNOWSLEY THORNTON, M.B., C.M. Surgeon to the Samaritan Free Hospital for Women and Children.

WITH REPORT OF POST-MORTEM.

By Alban Doran, F.R.C.S. Surgeon for Out-patients to the Samaritan.

THE application of Lister's antiseptic method to the performance of ovariotomy is just at present so closely watched both by the friends and the foes of the system that the cause of death is anxiously sought after in every fatal case. The present one demonstrates so perfectly how well the healing processes had progressed in the wounded parts, in spite of the most unfavourable condition of other vital organs and the impure state of the blood itself, that I think it a duty to place the details on record at once. Without such a record the case is only too likely to be classed among the failures of the antiseptic method.

E. S., aged fifty-six, married twenty-one years, but never pregnant, a pallid woman with pinched face, and looking older than her age, came under my care at the Samaritan Hospital in the middle of June, 1878, having been sent to the surgical wards by Dr. Routh.

The abdomen was greatly distended by a large cyst, with evidences of secondary masses growing in its walls. The pelvis was occupied by a large hard mass lying to the right of and behind the uterus, which was pushed over to the left side. The mass moved with the abdominal tumour, but was so wedged in the pelvis it was impossible to say whether it was adherent or not. The uterine cavity measured three and a half inches, and seemed free from the tumour. There was no evidence of abdominal adhesion.

History: Had noticed increase of size during last five years, but it had not been rapid till two years back. In June, 1877, she got into the hands of an advertising quack,

who promised to cure her without operation, and then tapped her, making an incision two inches long for the purpose. Twenty pints of dark fluid were removed, and she was in his hands for six weeks, when he declared her cured. She rapidly refilled, and then sought other advice.

When she came under my care she measured forty-three inches at the umbilical level, and was beginning to suffer

with her breathing, &c., from the distension.

Her general condition was most unfavourable for any surgical operation. My colleague, Dr. Champneys, kindly examined her chest for me. The heart was enlarged, and there was a loud double murmur at the base. The arteries were all tortuous and hard, those at the neck especially, the innominate visibly enlarged and pulsating violently; the pulsation in the arteries of the arms was visible in their whole length. The lungs were in a fairly good condition, but there was some crepitation at their bases posteriorly. The kidneys had long been acting badly, and although the ordinary tests gave no evidence of albumen, the urine was scanty and of low specific gravity.

She was distending rapidly, and the question of tapping or ovariotomy presented itself. I did not think the prognosis was favourable for either. I have seen such cases very ill after simple tapping, the diseased heart and kidneys not being equal to the discharge of their functions under the changed conditions of the circulation and pressure. The result of the previous tapping was not satisfactory, and I determined, after explaining the various risks to the patient, to perform ovariotomy. If she survived the actual operation, I hoped that, with the aid of antiseptics, she might do well. On July 3rd, at 2.30 P.M., Mr. Meredith carefully administered bichloride of methylene, which she took very well. Assisted by Drs. Bantock and Champneys, I removed the tumour. There were no adhesions, and I ligatured a very broad short pedicle on the right side of the uterus with two transfixions with medium silk, a special fine ligature being applied to the veins in the outer part of the pedicle, and the middle ligature, which I had purposely left long, being tied again round the whole pedicle after the tumour had been cut away.

left ovary was turned into a cyst of the size of a small hen's egg, and I also removed it, transfixing and tying the pedicle in two halves, and afterwards passing one of the ligatures round the whole. The stumps were then dropped in with the ligatures cut short, and the wound closed by fine silk sutures. Very little sponging was necessary. I was careful in ligaturing the pedicles not to draw the ligatures tighter than was absolutely necessary to control the hæmorrhage. The whole operation was performed with the most perfect antiseptic precautions. The total weight of the solid and fluid removed was thirty pounds.

For a few days before the operation the patient's temperature had been slightly below the normal, and shortly after she had been placed in bed it was 97.4. She had a very comfortable night, skin acted well, and she was free from sickness. At 2 A.M. the temperature reached 98.4; at the morning visit at ten it was 100'0; pulse, 104; respiration, 18. There was plenty of urine of a good colour. There was no sickness during the day, and her condition was satisfactory, except that her face and hands were markedly cedematous. At 8 P.M. the temp. was 101'4, and at the evening visit at 9 P.M., 101'2; pulse, 114; respiration, 20. She had a good night, and the flatus passed well. At the morning visit, temperature, 100'4; pulse, 104; respiration, 20. The ædema was disappearing, and the quantity of urine was normal, and its appearance good. I did not test it. At 9 P.M. the temperature was again 101'2; pulse, 104; and the general condition seemed good. There were two things which were not quite satisfactory, however. She was a little bit excited in manner, and the nurse told me that since the morning she had been passing a much larger quantity of paler urine; unfortunately she had thrown it all away. I hesitated whether to apply the ice water-cap or some milder form of cold to the head, but eventually decided, as the pulse was quiet and the temperature moderate, to wait and see how she was in the morning.

At 8 A.M. she was suddenly seized with dyspnæa, and complained of pain in the chest and head; temperature, 101'2. I was not sent for at once, and did not see her till 9.30. She was then sitting up, supported by pillows, ghastly

pale, complaining much of pain in the chest and head, very restless, constantly tossing her hands about, and moving her head from side to side; temperature, 101'4; pulse, 160, feeble; respiration, 36, and apparently affected more by the cardiac condition than by the state of the lungs. I ordered small quantities of champagne, and the following draught to repeated every hour: - R Tinct. castor. mxx; tinct. digitalis mx; sp. eth. sulph. mxx; aq. camph. 3j. And at the suggestion of my colleague, Dr. Day, who came in at the time, a large mustard plaster was applied over the lungs posteriorly. I held the patient up while this was put on, and Mr. Meredith auscultated the back, and found that the air was entering both lungs well, though there was some crepitation. The nurse now informed us that during the night she had hardly passed any urine, and the catheter only produced about an ounce of thick rather dark urine, which was found to be half albumen. There was again some ædema of hands, but none of the face. The abdominal condition appeared quite satisfactory, no distension or tenderness, and the flatus passing freely and naturally.

The same treatment was continued during the day, a quarter of an ounce of brandy in hot water being occasionally given, as it relieved the flatulence in the stomach. At one o'clock the temperature had mounted to 102.6, but the pulse had gradually fallen and improved in character. At 2 P.M. temperature, 102'2; pulse, 120; respiration, 38. She had lost the pain in the chest, but still complained of her head; two ounces of beef-tea, with half an ounce of port wine, as an enema, to be given every two hours. At the evening visit the temperature was 102'2; pulse, 112; respiration, 44; patient not quite so restless. The suppression of urine was almost complete, and as her strength was good, I stopped all stimulants by the mouth, and ordered milk and soda-water, with the following mixture, every two hours:-R Pot. cit. gr. xv; pot. bicarb. gr. x; sp. eth. nit. mxxx; tinct. hyoscyam. mxx in an ounce of camph. water. A large hot linseed-meal poultice, with a little mustard, to be applied over the loins every four hours. During the night and early morning she seemed to improve a little, and nearly half a pint of urine was obtained. At 3 A.M. the temperature was 102.2. At 6 A.M. she suddenly became unconscious, and the temperature rose to 104.0, falling again to 103.0 by 7 o'clock, and she died at 8.30 A.M.

For the accompanying full account of the post-mortem examination I am indebted to my colleague, Mr. Doran:—

E. S., 56.—Operation July 3rd, 2.30 P.M. Died July 7th, 8 A.M.; post-mortem July 7th, 11 A.M. (very hot summer's morning).

Body thin; rigor mortis not commenced. Hardly any distension of abdomen by flatus; edges of abdominal wound well united.

Common carotid arteries normal on both sides, being neither atheromatous, tortuous, nor dilated. Innominate artery dividing a quarter of an inch above the right sternoclavicular articulation. Both internal jugular veins much dilated. On opening the right vein a large quantity of dark fluid blood escaped. The blood in veins all over the trunk was dark, fluid, and coagulated very slowly.

Heart weighed one pound three ounces. Its upper border extended to lower border of second rib in the line of the nipple; the right ventricle extended three inches to the right of the sternum, at level of fourth costal cartilage. Apex reached the sixth interspace external to the line of the nipple.

All the chambers filled with fluid blood, and there was a sizy decolorised clot in the right auricle. Right auriculoventricular orifice wide enough to admit three fingers. Walls of right ventricle hypertrophied (one-eighth inch thick towards apex, one-fourth near valves); no disease of cusps of tricuspid and pulmonary valves. Left auricle dilated; walls slightly hypertrophied. Left auriculo-ventricular orifice much dilated, admitting four fingers. Extreme hypertrophy of walls of left ventricle (from one-half to three-quarters inch thick). A few very small vegetations on edges of mitral cusps. Aortic valves thickened, corrugated. Both mitral and aortic valves highly incompetent when tested with water.

Lungs universally congested, as much in front as poste-

riorly. Right apex adherent to chest wall by an old adhesion. No consolidation, nor any trace of tubercle on either side. No fluid in pleura.

Abdomen no trace of peritonitis. Ileum very thin and empty; mucous membrane of intestines pale.

Liver three pounds eleven ounces; fatty and much congested. Right kidney three and a half ounces; capsule adherent; surface much puckered, very firm, and granular; small cysts throughout cortical portion of gland. Left kidney seven and a half ounces; very granular; several large cysts on surface.

Uterus elongated (four inches), narrow; a small subperitoneal fibro-myoma on fundus. The pedicle of the right ovary, securely ligatured, was capped by a dark friable clot; the left pedicle was similarly secured. A dark, firm, partly decolorised clot, about the size of a walnut, was found in the pelvis. It was already undergoing absorption.

This post-mortem examination clearly shows that everything in the surgical progress of the case was most satisfactory-marvellously so, if we consider the condition of the patient during the last twenty-four of the ninety hours she lived after the operation. The favourable opinion formed before death from the abdominal symptoms was fully confirmed. I would draw special attention to the presence of the small partly decolorised clot in the pelvis as an evidence of the absence of any septic condition, and to the clot capping the larger pedicle, as the perfect condition to aim at in the treatment of the ovarian pedicle by ligature. This cap of blood-clot shows that the ligatures, while tight enough to prevent serious hæmorrhage, were not so tight as to cut off all supply from the distal portion of the stump, and in an aseptic case this clot forms a most useful covering to the ligatures and cut surfaces, forming very soon as it organises free vascular connexions between the proximal and distal portions, and preventing the latter from injurious adhesions to neighbouring coils of intestine or other organs in seeking its blood supply. I have already drawn attention to this subject in a paper in the British Medical Fournal; but I would repeat: If the pedicle is too roughly and tightly ligatured, the distal portion is strangulated, and if it retains its vitality at all, it must adhere to something to obtain blood supply. To avoid this we may cut off the pedicle very close to the ligature, but in so doing run great risk of slipping and hæmorrhage. I believe the ligatures grasping the nerves of the pedicle may be another source of danger if too tightly tied.

My reading of the case before death was as follows:-Sudden alteration of the blood pressure from removal of a large vascular tumour, together with the slight fever due to the operation, threw too great a strain upon the diseased kidneys, and they failed to do their work, their failure being indicated first by the ædema and afterwards by the large quantity of pale urine preceding the suppression. heart, already taxed to the utmost by its own diseased condition and the state of the arteries throughout the body, was unable to perform its work when it had to deal with the blood charged with the products which the kidneys should have excreted. The lungs as a consequence became gorged, and then the heart failed altogether. Of course, the state of the brain from the uræmia intensified all the morbid actions. and probably was the immediate cause of death. I think it is quite likely the changes in the circulation would have led to the same result had a simple tapping been decided on, and I do not regret the performance of the major operation.

POST-PARTUM HÆMORRHAGE,

WITH NOTES OF THREE CASES SUCCESSFULLY TREATED BY COMPRESSION OF THE ABDOMINAL AORTA.*

By M. M. BRADLEY, M.D. Jarrow-on-Tyne.

Mr. President and Gentlemen,—

There is no accident that can befall the parturient woman so dangerous as flooding: nor is the medical man

^{*} Read at the Spring Meeting of the North of England Branch British Medical Association.

ever called upon under any circumstances where skill, presence of mind, and promptitude of action are more required. To become possessed of those qualities it is highly essential that we know the causes and treatment of hæmorrhage, and as a means to that end I propose to deal with that form which follows upon the birth of the child. Irrespective of hæmorrhage caused by rents or tearing of uterine tissue, and also that due to pathological conditions, such as tumours of a fibroid, fungoid,* or polypoid character, or morbid adhesions existing between the serous and muscular coats, and between the placenta and uterus (mucous membrane of), I purpose to deal with that condition more immediately depending upon the constitution of the patient; atony of the uterus from excessive or long-continued muscular action, over-distension, owing to the presence of more than one fœtus, or hydrops amnii, and also the presence of foreign bodies within the uterus. But before entering upon this wide and important subject, I would respectfully solicit your indulgence while I briefly refer to prophylaxis. It has been held that as parturition is a natural process it must needs, if judiciously managed, uninterfered with or unaided, terminate favourably; and the success which has attended some individuals, and perhaps many here present, would go far to confirm this argument in all its entirety.

But, on the other hand, there are many others (and I myself among that number) who know how utterly fallacious such an argument is, albeit at one time willing to endorse it with the stamp of experience. Hæmorrhage will occur; and although we cannot at all times prevent such a melancholy catastrophe, we can be ever on our guard against it, so as to reduce its occurrence to a minimum, and by anticipation avail ourselves of those remedies and means which experience has shown and practice proved to be the most beneficial for that purpose. More than a quarter of a century ago, Dr. Ewing Whittle† pointed out to the members of the Medical Society of Liverpool, "that the probable occurrence of post-

^{*} Obs. Journ. Great Britain and Ireland, May, 1876, p. 119. + Brit. Med. Journ., Sept. 27th, 1873, p. 370.

partum hæmorrhage in any case of parturition could be diagnosed beforehand, and, being diagnosed, could be prevented." This assumption he made upon the character and duration of the pains, which are stated to be "sharp, quick, and cease almost suddenly, having an interval between the pains, long in proportion to the length of the pain." This I believe to be in perfect accord with the physiological action of muscular tissue; and thus we have in the delicately constituted woman with weak and flabby muscles, or in the robust and powerful woman, whose muscular irritability is exhausted by too long or too powerful action (or both), short and quick contractions with a long interval occurring between each contraction, so as to enable nature to restore the force expended. It is against these two conditions that we are to be constantly on our guard.

The former must be met by the judicious and timely administration of ergot of rye—always provided no obstacle intervenes—and the latter by the skilled and timely delivery of the patient, either by manual or instrumental interference. Far be it from me to advocate the administration of ergot or the use of the forceps on any other ground than that beneficial to the patient, because I thoroughly believe in the axiom taught by Blundell that "meddlesome midwifery is bad," and I am equally aware of the injurious effects to mother and child which may arise from the injudicious employment of either; still, I am convinced that the withholding of either under prejudice or cowardice is a very fruitful source for many of the evils that happen in child-bearing. If we would act according to the law which governs equable, permanent, and complete muscular contraction, by removing from within and around the uterus all foreign matter, taking care to follow down the uterus during the expulsion of the fœtus, as taught and practised by Clarke, Collins, Beatty, and others; and not to empty the uterus too rapidly of its contents, but leave it to expel the body and feet of the child as insisted upon by Barnes,* we should then obtain what might be justly termed a complete state of prophylaxis, and cer-

^{* &}quot;Obst. Operations," p. 433.

tainly hæmorrhage post-partum would be reduced to a minimum. The state of the circulation both before, during, and subsequent to delivery, is said to be a test of great value. Before delivery, if the circulation be excited, we should endeavour to tranquillise it; and for this purpose, if the woman be plethoric, a carefully regulated regimen, with salines and digitalis, should be had recourse to. In days happily long gone by, when all pregnant women were bled indiscriminately, patients of this type were likely to benefit, and would now by the abstraction of several ounces of blood, owing to its powerful influence upon the heart's action, in diminishing its force and frequency. We know that the quantity of blood lost in a given time is in proportion to the rapidity and force with which it flows, and the calibre of the vessel; also that the resisting power of the uterus, although firmly contracted, when double blood-pressure is applied, is only equal to the resisting power of the uterus half as firmly contracted, when only half-blood pressure is applied. Another very important factor, if not one of the most important (save and except uterine contraction) in the prevention of hæmorrhage, is the coagulability of the blood. Nature has in her unerring wisdom brought about in the pregnant woman a state of hyperinosis, in which, according to Andral and Gravarret, the fibrine is increased during the last three months of pregnancy above two parts in a thousand. In the first six months it is below this mean; Richardson and others found the fibrine in the blood of the parturient woman increased to six, seven, and eight parts in 1000.

This fact has not escaped the acute observation of McClintock,* for he says in his annotations of Smellie's Midwifery, when writing on this subject:—"A third condition there is whose influence must not altogether be ignored, and that is the coagulable power of the blood itself. This property, I fully believe, plays some part, though probably a subordinate one, in arresting sanguineous discharges from the womb after labour, as well as at other times."

If, on the other hand, the woman is anæmic, feeble, or

^{*} Vol. i. p. 387, New Sydenham Soc.

"out of health," a four to six weeks course of medical treatment, the basis of such treatment being the administration of iron, as recommended by Dr. Bassett,* will have a good effect in preventing hæmorrhage; he says, "after an active experience, extending over five and twenty years," that the above is the best method of anticipating post-partum hæmorrhage, and he adds that he attributes the fact of never having a fatal case to this treatment.

After the delivery of the child, if the pulse exceeds 100, it augurs danger, according to Labatt and McClintock.† That eminent physician, Gooch,‡ gives some excellent advice upon the state of the circulation, which is so very pertinent, that I give it in his own words. "How often," says he, "a disturbance of the circulation plays an important part in uterine hæmorrhage it is difficult for an individual to know, but I suspect sufficiently often to deserve the especial attention of practitioners. I advise them, when they meet with patients subject to hæmorrhages after delivery, to notice the state of the circulation before labour, and if disturbed, to employ means for tranquillising it before labour comes on. I advise them during labour to use cordials cautiously (I should say not at all) lest the placenta should separate during an excited state of the circulation. I advise them after delivery, though the uterus may feel contracted, to be slow to leave their patients if the circulation is greatly disturbed."

"In almost all the cases of flooding after labour," says Churchill, § "when I have had an opportunity of examining the pulse up to the time of the occurrence, I have found it remain quick, and perhaps full, instead of sinking after delivery. This has been so marked in several cases, that I now never leave a patient so long as this peculiarity remains, and in more than one instance I believe the patient has owed her safety to this precaution." Knowing that the pulse-rate varies in individuals apparently in a perfect state of health

^{*} Brit. Med. Journ., Nov. 1873, p. 600. + Loc. cit., vol. i. p. 387. ‡ "Diseases of Women," p. 338. § "Theory and Practice of Midwifery," 5th ed., p. 250.

and in the same individual under different mental conditions, and that the parturient woman's nervous system is in a highly exalted condition, and therefore in the most favourable state for receiving impressions, whether of a sad or joyous character, I have not perhaps attached so much importance to the state of the pulse as it deserves, both before and after labour, but seeing that trustworthy observers have noticed it, I say with Velpeau, I believe it to be true, but had I observed it myself, I should have doubted it. In leaving my patient I always satisfy myself that the uterus is contracted, that there is no excessive hæmorrhage, that the child is applied to the breast, and that she is comfortable: but henceforth the state of the pulse shall also engage my attention. For a very ably written paper on the pulse rate in relation to post-partum hæmorrhage by Dr. Ashburton Thompson, see OBSTETRICAL JOURNAL OF GREAT BRITAIN AND IRELAND, vol. v. p. 785. Rupturing the membranes is a practice much to be relied upon if we expect hæmorrhage from uterine inertia. Levret and Lee advocate its advantages, and McClintock* says:-"I have adopted the precaution of rupturing the membranes on very many occasions, and am fully persuaded it is a most valuable, and always a feasible, auxiliary in the prevention of flooding after delivery," and he adds that Dr. Dewees, "from many years of experience," was convinced it is the principal means to be relied on for preventing hæmorrhage. I have already said that before leaving my patient I always see that the child is applied to the breast, probably the law of reflex action is never better illustrated than in such a case, it is a most excellent precaution, first pointed out, I believe, by Rigby,† and many accoucheurs and authors speak of it as never having been known to fail. Last, though by no means the least precaution I would mention, is the proper application of a bandage either with or without a compress; although this is opposed to the teaching of Denmant and others, it is now generally practised, and must, from the support it affords to the flaccid abdominal walls, the main-

^{*} Smellie's "Midwifery," New Sydenham Soc., vol. i. p. 391. † "Library of Medicine," vol. vi. p. 217, 1841. ‡ Vol. ii. 1795, p. 484

tenance of the uterus in its relation to the axis of the pelvis and the compression of the fundus, not only be advantageous, but also a source of comfort to the patient. Acting on the principle that prevention is better than cure, I have unwillingly prolonged this part of my subject, but this may not be a source of regret, especially as the causes which give rise to post-partum hæmorrhage have to a greater or less extent been referred to. It now only remains for me to enumerate them in a tabulated form.

In addition to those given, they are as follows:—

1st. The non-observance of the precautions mentioned.

2nd. The presence or absence of those conditions already enumerated.

3rd. Traction on the umbilical cord, causing inversion of uterus, and the leaving behind tufts or placentæ succenturiatæ.

4th. An over-distended bladder, and it may be a hæmor-rhagic diathesis.

Supposing the prophylactic measures failed, and that the patient is flooding, our first duty is to ascertain the cause, and endeavour to remove it.

If the placenta has not yet been expelled, then the hæmorrhage has one of two sources, either from some rent or tear in the parturient canal, or from the placental site, owing to its partial detachment. If the latter, we must aid the uterus in endeavouring to expel the placenta by gentle compression and friction over the fundus; but if we cannot succeed by this method (Dublin method), then no time must be lost in extracting it secundum artem. If the bleeding takes its origin from the second source, we must use styptics and plug, the only occasion, in my opinion, where the tampon is justifiable in post-partum hæmorrhage; or it may be that the laceration involves the cruræ of the clitoris, and acupressure or sutures will have to be employed. For cases of this nature, see a very interesting paper in the Dublin Medical Fournal for November, 1875, by Dr. Macan.

When the hæmorrhage is owing to the presence of a tumour or morbid adhesions existing between the serous and muscular coats of the uterus, as pointed out by Graily Hewitt,* the bleeding surface should be swabbed over with the perchloride of iron, after which antiseptic precautions should not be omitted, lest septicæmia follow, although Barnes† speaks in favour of the perchloride itself being an antiseptic. But not unfrequently the fault lies in the uterus itself, owing to inertia from some of the causes already mentioned. In order to relieve this condition various means have been advocated, all of which have been successful, and all of which have failed, the chief aim and object of all being closure of the mouths of the bleeding vessels, either chemically or mechanically. Could we but get the uterus firmly, equably, and permanently contracted, hæmorrhage could not occur, and the converse of this is equally true. In making this assertion I am aware it is in direct antagonism to the opinions expressed by Simpson and Gooch, the latter of whom says:-- "The observing practitioner must have been struck by the little proportion that existed between the want of contraction and the degree of hæmorrhage; having found the uterus bulky without any hæmorrhage, and a profuse hæmorrhage without greater bulk of uterus. Nay, further, I have witnessed a profuse hæmorrhage, though the uterus had contracted in the degree which commonly indicates security; and I have ventured to do what is seldom justifiable—separate the placenta before the uterus had contracted, without more hæmorrhage than after a common labour."

I cannot help thinking that in making this observation Gooch was mistaken, and that the contraction which is here spoken of, and which is so likely to mislead, was that most dangerous—because misleading—of all contractions, where the muscular fibres act in a state of irregularity and want of equability in the fundus or body of the uterus. This supposition is all the more certain, inasmuch as we not infrequently meet with so-called "hour-glass contraction"—which is just an irregularity of muscular contractility in different planes—in cases of hæmorrhage. This condition is well exemplified

^{*} Obs. Soc. Trans., vol. xi. 108. † "Lectures on Obst. Operations," p. 466. ‡ Med.-Chir. Trans., vol. xii. p. 157.

in my second case, and it is borne out by Burns,* who says:-"I have rarely introduced my hand into the uterus without meeting with it (hour-glass, or irregular contraction), whether the placenta had or had not been expelled." Simpson† corroborates Gooch in every particular, and we find him adducing the evidence of complete separation of the placenta, when prævia, without any hæmorrhage, and also in cases of twins, where one placenta is expelled after the birth of the first child and no hæmorrhage follows, although the uterus is not firmly or equably contracted, owing to the presence of the other child. Then if hæmorrhage occurs when the uterus is apparently well contracted, and no hæmorrhage occurs after delivery, though the uterus is not contracted to its usual degree, what, I would ask, with Simpson and Gooch, "is that circumstance that has so great an influence that its presence can cause a moderately contracted uterus to bleed profusely, and its absence can cause an uncontracted uterus to bleed scarcely at all?" In other words, what are Nature's hæmostatics apart from uterine contractions?

The placenta is expelled by a process of avulsion, and the torn and injured utero-placental vessels act towards the blood as foreign matter causing its coagulation. When an artery is torn it retracts within its sheath, owing to the contraction of its longitudinal fibres; and, the circular fibres contracting, diminish the calibre of the vessel. This diminution is increased by the mechanical action of the blood extravasated in the felty tissue of the sheath. When blood flows for a length of time, fainting follows; as a natural consequence the heart is unable to propel the blood with sufficient force to expel the clots already forming in the mouths of the injured vessels. The permanent closure is effected by the organisation of the "lymph clot" formed at the mouth of the vessel, and between the internal and external blood-clot. This I hold to be the principle upon which compression of the aorta is based, for by compression we either prevent a current of

^{* &}quot;Principles of Midwifery," 9th ed. p. 543. † "Selected Obst. Works," p. 237.

blood through the serpentine vessels, thus allowing the formation of a clot, or the current is so feeble as to be unable wholly to displace it. In either case a clot is formed, and if of sufficient consistency to withstand the reaction, the mouth of the once bleeding vessel is literally hermetically sealed.

But Nature has adopted another and, if possible, more perfect and beautiful means for the prevention of hæmorrhage from the veins and sinuses of the uterus—which is a hæmorrhage by retrogression—by the position and mechanism of the uterine veins, although devoid of valves. This natural mechanism was beautifully shown in a case of dissection of a gravid uterus about the sixth month, which came under the observation of Mr. Owen,* who states that he "observed that where the veins of different planes communicated with each other in the substance of the walls of the uterus, the central portion of the parietes of the superficial vein invariably projected, in a semi-lunar form, into the deeper seated one, and where (as was frequently the case, and especially at the point of termination on the inner surface) two, or even three, of these wide venous channels communicated with a deeper sinus at the same point, the semi-lunar edges decussated each other, so as to allow only a very small part of the deepseated vein to be seen. It need scarcely be observed how admirably this structure is adapted to insure the arrest of the current of blood through these passages upon the contraction of the muscular fibres with which they are everywhere surrounded." Goodsir corroborates this statement, and Simpsont says that the microscope shows the common contractile tissue of the uterus in the folds of these falciform projections. us now turn our attention to the medicinal agents used in the treatment of post-partum hæmorrhage; and foremost among these I would mention ergot of rye, either administered by the mouth in the many well-known fluid forms, or hypodermically. I believe almost all systematic writers give ergot the first place, and McClintock † says, "Of all the resources

^{* &}quot;Works of John Hunter," vol. iv. p. 68. † "Selected Obst. Works," p. 238. ‡ Smellie's "Midwifery," vol. i. p. 391.

however, against post-partum flooding, I believe the most effectual to be ergot of rye." Turpentine is deservedly spoken highly of, and Mr. Bradley* describes its effects as "magical." Borax, cannabis indicus, and opium, have also been warmly advocated. Murphy† relates the case of a poor emaciated woman who would have died had it not been for the most energetic measures, and he adds, "I think opium in large doses saved her."

Agents which act by Reflex Action.—Foremost among these are cold, either applied externally or internally in the form of ice, as first recommended by Levret, heat, tampons, and the introduction of the hand into the uterus. The latter, when performed with care and due regard to the axis of the outlet, cavity, and brim of the pelvis, is a mode of treatment well worthy of confidence, as by its presence not only is uterine action excited, foreign bodies therein detected, but if the case is so desperate as to require the injection of perchloride of iron, it is essential for the success of that remedy that the tube be directed on the hand up to the fundus of the uterus. Gooch advocated the compression of the uterus between the hands, one being placed inside and the other outside the uterus; but, of course, such a procedure could only compress the placental site, provided the placenta was attached to the anterior wall. Hamilton ! advocated the compression of the uterus between the hands, one being placed behind and the other anterior to it. This, under the relaxed condition of the abdominal muscles, is attended with no difficulty, and is likely to be productive of good, if had recourse to early, but if delayed, so as to allow the formation of coagula in the mouths of the vessels, then compression breaks up and disengages them, and thus brings about the very evil we wish to avoid. There is still another advantage to be derived from Nature's tourniquet, and that is its employment in compressing the abdominal aorta. As to whether Ploucquet or Saxtorph were the first to compress the abdominal aorta, Barnes and Churchill disagree; but that they,

^{*} Lancet, vol. i. p. 305, 1861. † "Lectures on Midwifery," p. 366, 1852. ‡ Edin. Med. Journal, 1861, p. 315.

Chailly, Caseaux, and others did it, and relied mainly upon it, there can be no doubt. I now place before you the notes of three cases in which I practised this method with success, and for it I claim the following advantages:—

1st. Nature's tourniquet is always ready, and can be immediately applied. If, as Barnes* says, the loss of life is in the loss of the last three or four ounces of blood, then if by this ready method we prevent the loss of three or four ounces, we save the life.

2ndly. It in no wise interferes with or prevents the use or application of any other remedy.

3rdly.—It is of all other means the one more directly under our control, and as it is practised when the patient lies on her back (the best position in post-partum hæmorrhage) we can observe the countenance, and also see that remedies of a stimulating, nutritious, and medicinal character are diligently and properly administered.

Cruveilhier, Ferguson, and others, compared the uterus after delivery to a recently amputated stump, and certainly they have both this in common—viz., they both present raw, muscular, and bleeding surfaces; and although I do not quite agree with the comparison, still the analogy is sufficiently accurate to enable me to show that if compression of the main artery to the limb is the legitimate and proper means by which hæmorrhage is temporarily arrested, compression of the main artery to the uterus must, cæteris paribus, be the legitimate and proper means for temporarily arresting uterine hæmorrhage. Again we permanently arrest hæmorrhage from an artery by ligature, and the muscular fibres of the uterus through and among which the serpentine arteries run may not inappropriately (from their function at least) be compared to the silk, catgut, or tendon ligature upon an artery, so that if we insure their permanent and complete contraction (which we can do by compressing the aorta until other agents bring about that result) we prevent hæmorrhage, as certainly as we do from the artery of the stump upon which we securely placed the ligature.

^{* &}quot;Lect. on Obst. Operations."

From all this it will be readily conceded that in compression of the abdominal aorta, we have a ready and efficient means of arresting post-partum hæmorrhage.

Barnes* says, "I have occasionally derived advantage from it and look upon it as a momentary resource."

Before leaving the subject of treatment I should add that of the three remaining remedies—viz., galvanism, hypodermic injection of ether, and transfusion, I employed the two former in the only case of fatal hæmorrhage which has occurred in my practice during a period of ten years, and out of a number of deliveries exceeding 2000. Of transfusion I have no experience. Secondary hæmorrhage will probably form another communication.

CASE I.—Mrs. S., aged thirty-three and a half years, mother of nine children, was delivered of a still-born male child on the 4th day of March, 1876, after a labour of sixteen hours' duration. About 5 P.M., Mrs. S. was present during the accouchement of a lady friend, and about two hours afterwards, while standing on the floor, she fainted and fell down, her dress being soaked with blood. She was placed in bed, blood kept flowing and her cold-pinched feeble condition excited much anxiety amongst her friends. Soon afterwards I arrived and found her suffering from all the symptoms of accidental hæmorrhage. I gave ergot, had recourse to digital dilatation, and in a short time succeeded in rupturing the membranes, after which labour was completed without much loss of blood or any other interference. While I was vainly endeavouring to restore animation in the child the placenta was expelled. When I considered my patient safe I left, and in about an hour afterwards the husband called to say his wife was fainting "every now and then;" I gave her liquor secale, opium and ether, in a mixture to be taken every hour in suitable doses. When the husband arrived home with the mixture (about ten minutes walk distant) he was despatched again for me with the alarming news that she was dying. I hurried off and found her almost bloodless and lifeless, the abdomen felt like a five months' pregnancy, but

^{* &}quot;Lect. on Obst. Operations," p. 463.

with a little gentle friction and compression of fundus uteri a clot of coagulated blood about the size of a child's head was expelled, followed by a gush of blood which resembled in sound the escape of the waters during a pain. The clot was not an exact cast of the uterus but was rather globular in form. Patient was very sick and now exclaimed, "I am dying." I introduced my hand into the uterus, which kept on alternately contracting and relaxing, the patient simultaneously growing better and worse. I grasped the uterus when contracted, pressed it well down into the pelvis, and got my hand between its posterior surface and the promontory of the sacrum, so that actually the uterus was jammed between my hand and the posterior surface of the symphysis pubis. I felt the aorta distinctly beating another relaxation, and a gush of blood followed, so I thought of compressing the aorta. Standing on the right side with the patient near the edge of the bed, lying on her back and the thighs flexed on abdomen, I kept up continuous pressure, although rather irksome, for a considerable time. Brandy and ergot had been previously administered, but was as quickly ejected, and cold water was sprinkled on face and chest. When patient rallied she complained of a "queer numb feeling in her mouth," and spoke as if her tongue was paralysed, although it did not deviate to either side when protruded. I placed a compass underneath the bandage, and when I considered her out of danger I left, having remained with her for four hours. Patient suffered from distressing headache, and her pulse continued at 120 for the four succeeding days. With salines and ultimately ferruginous preparations, she recovered so far as to enable me to discontinue my visits after a month. I may say that Mrs. S.'s last five confinements were complicated by flooding, the hæmorrhage in four being ante-partum and in two postpartum, so that the nomen "bleeder" may not be inappropriate in this case.*

CASE 2.—Mrs. T., aged twenty-six years, mother of three children, was delivered on the 2nd of April, 1877, about

^{*} Since this was written, Mrs. S. has been confined, and very nearly lost her life from accidental hæmorrhage.

11.30 A.M., of a male child, after a labour of eleven and a half hours' duration. The third stage was completed five minutes after the second stage of labour. I remained half an hour, and before leaving cautioned Mrs. T. and nurse against anything that would likely bring on flooding, and advised that the baby should be put to the breast. When I returned home, about two P.M., I found the husband waiting, and the bearer of a message that I was to go directly, as the wife had been sick two or three times, and nurse thought she was losing too much blood. In twenty minutes after I reached the patient's house, and found her in a very precarious state from loss of blood. I had opium and ergot with me; but, as I was favourably impressed with the treatment adopted in Case I, I resolved to resort to it again should the opportunity present itself. Accordingly I did so. When I considered my patient out of danger and was about to take my departure, having remained two hours, she exclaimed "I am sick." During the retching I was standing near the head of the bed, and I heard a noise as if it were a gush of blood. The vagina and os were filled with coagulated blood, which I cleared out in endeavouring to pass my hand into the uterus. This I was unable to do owing to a firmly contracted band of muscular tissue, about half-way between the fundus and os, which resisted all attempts to pass.' The contraction was such as to only admit the tip of the finger. I again had recourse to compression of the aorta with complete and permanent success. The patient made a slow but good recovery.

CASE 3.—Mrs. E., residing in High Felling, aged thirtynine years, and the mother of eight children, left home on the 8th of September, 1877, at 11.30 A.M., for the purpose of visiting her daughter, residing at Jarrow-on-Tyne (distant five miles). There was no hurry to catch the train, fright, nor accident, to account for the oozing of blood which began after arriving here. About 5 P.M. a gush of blood came away, and immediately afterwards a three months' fœtus—calculating from cessation of the menses—was expelled. "Baby was every way complete, and as clean as if it were washed." So said Mrs. E. to me. "A short piece of cord

was attached to the child's navel. There were no regular pains, but a gnawing in the back. I was out of bed and standing up when the baby was born, but soon after I felt sickish, and was forced to go to bed. The blood kept flowing; I felt faint, sick, and vomited several times, the effort bringing away large clots. I was sensible all the time, with the exception of a minute or two when I wandered away, but my lips being wet with water, I came round again." Such is the history of this case in the patient's own words. About II P.M. I was sent for, and in five minutes afterwards I found her in bed pulseless, bathed in cold perspiration, sighing, cold, and restless. She was quite conscious, and her appearance was that of old ivory. The sense of hearing and seeing was disturbed. I introduced my hand into the vagina, cleared away all the clots in vagina mouth and cervix of uterus, and came upon a substance which turned out to be the placenta. By this time patient's condition was very alarming, and her desire was to be allowed to die in peace; and certainly her symptoms and appearance indicated immediate dissolution. I placed patient in the most favourable position for compressing the abdominal aorta. Continuous compression became very irksome, but an intelligent woman stood opposite me and pressed my hands with hers. Chloric ether, ergot, and brandy, were prescribed. Heat was applied to the extremities, and the improvement was so great that in two hours I felt at liberty to leave. Shortly afterwards I saw the patient, and learnt that an attack of vomiting supervened about 2.30 A.M. Six days afterwards the recovery was so far complete as to enable her to return to her home, but many weeks elapsed before she was restored to health.

This case was certainly a very alarming and serious one of flooding; and although Churchill* says, "I cannot say that I ever met with a case in which it (abortion) proved fatal, though I have seen life reduced to the lowest ebb," I firmly believe, from the length of time which elapsed before medical aid was obtained, and the state to which the patient was reduced from loss of blood, that death would have followed

^{* &}quot;Theory and Practice of Midwifery," p. 178, 5th ed.

in this case, had not prompt assistance averted the sad catastrophe. In support of this I take the liberty of quoting Barnes,* who says, "It is a common belief that the hæmorrhage, however profuse, will stop in time, and that the patient is sure to rally; but this is not the experience of those who are largely consulted in difficult cases. I have known not a few deaths from primary hæmorrhage and shock," &c.

NOTE AS TO THE MORTALITY IN CHILDBED STATISTICS.

By Dr. Hamilton, Falkirk.

I AM obliged to Dr. Galabin for correcting, in the July number of the Obstetrical Journal, two mistakes which I made in my paper in the June number of the same Journal; the first, as to the maternal mortality with which I thought I had been debited, and the second as to the twenty-five per cent. feetal mortality referred to in the October Number of the *British and Foreign Med.-Chir. Review* for 1852. On referring to the original article I find, as Dr. Galabin has stated, that only forceps cases, and those where the labour extended to twenty-four hours or more are included, the mortality for the rest not being stated; but this does not in the least affect the practice recommended, and which I ventured to attack, as will be seen from the full extract now given:—

"Question of Instrumental Interference in Laborious Labours.—Dr. Murphy endeavours to deduce, from the examination of statistical facts, the rules that should guide our practice in those cases in which the head, without being actually arrested, yet advances so slowly as to seem to be so. In 75,911 cases of midwifery occurring in British practice, there were 138 forceps cases, and in thirty-five of these, or one in every four, the child was still-born. In France, 173 forceps cases furnished forty-one still-born children, and in

^{* &}quot;Lect. Obst. Operations," p. 395.

Germany 2808 furnished 650, so that it may be laid down as a rule that nearly one-fourth of the children delivered by the forceps are lost. In order to determine how these protracted cases fare when left to themselves, Dr. Murphy refers to Dr. Collins' tables as the only data which, from their accuracy and minuteness, afford the elements of calculation these exhibiting the duration of labour in all the cases reported. From these tables it appears that of 430 cases in which labour lasted or exceeded twenty-four hours 324 were delivered without assistance, the children being lost in sixtyone cases, or about one in five. Among the 5699 cases that fell under Dr. Murphy's own care, 218 were similarly protracted, and 175 of the number were delivered naturally, forty-one children, or one in four nearly, being still-born. Thus, so far as the children are concerned, the proportion still-born is very much the same whether the forceps be employed or not, the difference, if any, being in favour of leaving the case to Nature. With respect to the mother, the experience of Drs. Collins and Murphy leads to the conclusion that a mortality not greater, but probably considerably less, attends the non-interference practice, as compared with the results that have been recorded. If these conclusions are sound, it is obvious that the use of instruments is to be discountenanced in all but exceptional cases of this kind, in which the habit of the patient is too feeble to admit of her enduring a protracted labour without risk of exhaustion. The discrepancy between English and foreign practice may be judged of by the fact, that while Ramsbotham employed the forceps once in 729 cases, Joseph Clark once in 742, and Collins once in 684, Killian resorted to them once in seventyeight, Carus once in fourteen, and Siebold once in nine cases. Dr. Murphy's recommendation is to employ the forceps only in cases of positive arrest, refraining if any advance, however slow, is made, unless dangerous constitutional symptoms are present." Deducting the 138 cases where the forceps was used in British practice, we have here apparently 75,773 left to version, the perforator, ergot, &c. Surely it was required that some one should raise his voice against such practice.

Dr. Galabin wishes to know more precisely the cases included in what, in my last paper, I called my first series of 731, but I think that will be found given with sufficient precision in my communication to the *British and Foreign Med.-Chir. Review* for October 1871, at p. 449, where I say that—Ist, 317 children were born alive, with the exception of one in a breech case; 2nd, that the numbers increased to 467 with still only one death; and 3rd, that 416 of these, and finally additions making 731, had been successive cases without a death.

Dr. Galabin also desiderates the want of the numbers of putrid and premature children in my cases, but as these had not a special relation to the object in view, their numbers were omitted in my latest enumerations.

Notices and Reviews of Books.

Contributions to the Physiology and Pathology of the Breast and its Lymphatic Glands. By Charles Creighton, M.B., Demonstrator of Anatomy in the University of Cambridge. Macmillan and Co. 1878. Pp. 200.

THE present volume is a reprint of the papers published in the "Reports of the Medical Officer to the Privy Council," with the exception of the investigation on the origin of secondary tumours in the liver. It contains also two chapters on development, originally published in the Journal of Anatomy and Physiology. All the articles are the product of much labour judiciously expended in the utilisation of valuable material, and their reproduction in the form of an attractive monograph with numerous excellent woodcuts of microscopic drawings will be universally welcomed.

The author begins by tracing the process of the periodic involution of the breast after the cessation of lactation from observations on the mammæ of the dog, cat, sheep, and rabbit. The typical structure of the active breast, with fully expanded acini and mosaic of polyhedric epithelium, he

finds to be most distinct in the specimens obtained two or three days before parturition. During lactation the epithelium is less regular. After lactation has ceased the first change observable is that, while the acini retain their size and form, their floor is covered, instead of polyhedric epithelium, with transparent vacuolated cells, retaining on their periphery triangular or crescentic nuclei. These cells, which are identical with colostrum cells, indicate a less degree of that liquefaction or deliquescence of the cell which, when perfect, leads to the formation of milk. At this stage the fluid produced is not milky but of a mucoid or albuminoid character. Nearer the resting stage the acini are smaller and the cells in them comparatively few, many of them having the form of large nuclei, destitute of cell body. most characteristic feature, however, is the presence among them of many large granular nucleated cells filled with a bright yellow or golden pigment, which pigment is also found scattered about the cells inside the acini. The marked character of these pigmented cells enables them to be readily traced, and so leads the author to several important con-Thus they are found in large numbers in the interlobar fibrillar tissue, especially at the corresponding stage of evolution, and thus illustrate the remarkable migratory powers not only of leucocytes but of large epithelial cells. A woodcut is even given showing a collection of these large yellow cells in the submucosa of a duct, and a rounded cluster of them, which is seen to have burst through the epithelium into the lumen of the duct, and to be followed up by several rows of the same cells in the submucosa, converging towards the breach in the epithelial wall of the duct through which the others have already passed.

In the completely involuted breast, the ducts and blood-vessels are conspicuous on a miscroscopic section, on account of the great retraction of the glandular substance. The acini are small and are grouped with some regularity round the larger ducts, the diameter of each acinus being about one-fourth that of an acinus fully evoluted. Instead of the cellular elements being to the number of fifteen to twenty or more, as they are seen to be in the floor of a perfect evoluted

acinus, they number, in the sectional view, on the average half a dozen; and, instead of forming a mosaic of large polyhedric cells, of which the central nucleus is not more than one-third of the whole breadth of the cell, they are nothing else than a somewhat irregular heap of naked nuclei, with no fringe or protoplasm round them, and in size little if at all larger than the nucleus alone of the perfect epithelium. Some of these nuclei are crescentic or triangular, like the nuclei of the vacuolated cells seen in the middle stage of involution.

The second chapter deals with the periodical evolution of the breast, and shows that the microscopic appearances seen at its different stages closely resemble those at the corresponding stages of involution, but that the evolution is an exceedingly slow process, occupying generally the entire period of gestation.

The author thus shows that both in periodical evolution and involution there is a large amount of cellular waste product, necessitated by the fact that the activity of the mamma is always double, so that a formative action and a functional action go hand in hand. From this he draws interesting and important conclusions as to the liability of the mamma to tumours, and the varieties of those tumours, tumour-formation resulting from some morbid stimulus, which differs from the physiological stimulus chiefly in the fact that it continues for an indefinite time at a low degree, and does not undergo that intensification in which lies safety. A special theory, however, is advocated, to which the author appears to attach great importance, and of which much use is made in accounting for the heterologous character, and therefore malignancy, of many mammary tumours—namely, that the formation of secretion in epithelial cells is essentially a process of endogenous cell-formation, as contrasted with the other great variety of cellular activity, that of multiplication by fission. On this point the evidence brought forward seems scarcely sufficient to maintain the theory. It may, as the author contends, be a "superficial objection" to calling the production of milk a process of endogenous cell-formation to adduce the fact that there is in it no actual formation

of cells; or to classing the granular pigmented cells among the same phenomena, to say that there is in them nothing endogenous or vacuolar. A more important objection, however, is found in the fact that the process is not adequately proved in the intermediate stages; for there is no endogenous cell-formation in the circumstance that, when a cell is partially liquefied or vacuolated, its original nucleus may remain as a crescentic or triangular body on the circumference, or a spherical body within the vacuole. The author does, indeed, say that cells are now and then found which have both the crescentic-shaped peripheral mass and the free round cell in the vacuole; but he nowhere figures even this, the only fact adduced from the physiological condition which furnishes even the slightest hint of endogenous cell-formation; and he does not appear to have met, except as a pathological phenomenon, with a plurality of free round cells in the vacuole. which alone would form a complete type of this mode of cell-multiplication.

Perhaps the most interesting and valuable portion of the work is that on pathological processes in the breast. The mammary tumours described were studied chiefly in the bitch, material having been collected from upwards of twenty cases which were under treatment at the Brown Institution, London. An account is also introduced of two mammary tumours in the cat, and eight from the human subject, the latter of which illustrate the same principle of tumour formation which are deduced from a more particular study of the cases in the bitch. These latter have the great and unique advantage for study, that the tumour disease is often found in various stages at various points of the elongated chain of glands. Thus a kind of intermediate territory is formed, in which the traces of healthy action are not yet hopelessly obscured. The tumours were various in structure, and among them were representatives, as to histological character, of scirrhus, medullary, reticular, and alveolar cancer, cystic sarcoma, &c.

The most common appearance in the more or less healthy mamma adjoining tumours, and in certain parts of the circumscribed tumours, is an appearance resembling that of the

early evolution of the mamma. The same large yellow cells are observed not only in the acini, but in passage through the loose fibrillar tissue outside. In this case, however, they are a much more stable product, and sometimes accumulate to form an epithelium of several layers, themselves acquiring a more columnar shape, and showing also a tendency to form villus-like processes. These large yellow cells, which do not appear to occur often in the human subject, are, in most cases, found in greatest numbers, not inside the acini, but in the fibrillar tissue outside. A figure is given, from a mammary tumour of the bitch, showing the fibrillar stroma of the mamma invaded by rows and alveolar groups of large yellow cells, the arrangement of which precisely resembles that of the small nuclear cells in a scirrhous cancer of the human breast. An illustration is thus given how the cancerous cells, whose distinctive character of heterology was considered by Virchow to be dependent upon their connective-tissue formation, may really have an epithelial origin. Of actual new growths, the first considered is that which has its structural type in a somewhat higher degree of the secretory force, corresponding to the physiological stage preceding the formation of mucus and vacuolated cells, at which the epithelium is in the form of somewhat large and granular nuclear cells, destitute of cell-substance apart from the nucleus. The same large nuclear cell is the most ordinary cell in mammary tumours of the human subject. This epithelium becomes massed in several layers, while the acini become greatly enlarged, and their space is sometimes occupied by trabecular columns of cells, formed by the fusion of papillary processes. The intra-acinous collections of the cells are considered by the author to correspond to the structure of medullary cancer, while the extra-acinous infiltrations of the same cells are a distinguishing feature of scirrhus.

Corresponding to a somewhat later period of evolution is a class of tumour which forms a considerable proportion of the cases in the bitch, and furnishes some of the varieties in the human subject. The appearances seen resemble those in the physiological stage at which the cells are vacuolated and the fluid produced is mucus; but in the pathological

state the epithelium of the acini sometimes takes the form of regular and perfect mucus-producing columnar cells. Tumours belonging to this group often correspond closely to cystic sarcoma, colloid cancer, or what the author calls myxoma, but which most pathologists would rather name adenoma, or adeno-sarcoma, reserving the name myxoma for the tumour of the connective tissue group.

In one case of hyperplasia belonging to the stage of mucus production, the cells in many of the acini had a spindle shape, the long axis being perpendicular to the wall of the acinus. The collections of fusiform cells outside the acini were also very numerous, and the author regards these as waste epithelial cells which had migrated. He contends against the theory of the connective tissue origin of all such cells as an incubus which has to be shaken off, and argues that the constantly assumed activity of the connective tissue stroma will appear, in the light of physiological knowledge, to be arbitrary as an assumption, and insufficient as an explanation. He would himself substitute the view that in most cases of "adeno-sarcoma," or "cystic sarcoma" of the mamma, the supposed sarcomatous element is of epithelial origin. He appears here to be as reluctant to ascribe any activity to the cells of the stroma, as other authors may have been determined to regard them as the only source of proliferation, and with as little support from positive evidence. For the presence of migrated cells in the stroma in some cases is not a proof that all cells similarly arranged have an epithelial origin, and it will certainly not be agreed by histologists that, as a general rule in cases of carcinoma, adeno-sarcoma, or epithelioma, the cells in the stroma, or in the connective tissue around the growth, are identical in shape and size with those which are seen in the alveoli, or constitute the cell-masses.

The remaining chapters of the work deal with the physiological functions of the lymphatic glands in relation to the breast, the tumour-infection of lymphatic glands, and the development of the breast. On the last subject a novel view is maintained, namely, that the secreting structure is formed, not from the epiblast, as is commonly held, but from

the hypoblast, and that the ducts, or communications with the skin, are essentially secondary formations, owing their existence to a force from within. Plates are given to support the theory that the mode of origin of mammary acini is closely analogous to that of fat lobules.

The printers and engravers have done their part in a way which deserves high commendation. The work should be read not only by those who are concerned with the physiology of the breast, but by all who are interested in the mode of origin and histological characters of tumour in general, although we think that several of the author's views are not likely to be confirmed by further research.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. Von Ziemssen. Vol. XIV. Diseases of the Nervous System and Disturbances of Speech. Sampson Low and Co., Pp. 893.

THE fourteenth volume of Ziemssen's Encyclopædia contains several articles of interest in reference to Gynæcology and the diseases of children, especially those on Chorea, Eclampsia, and Hysteria. The paper on chorea is contributed by Von Ziemssen himself. With regard to etiology the author fully accepts the view as to the close causal relations between chorea and rheumatism, based chiefly upon English and French statistical reports, of which the first were those of Dr. Hughes, of Guy's Hospital. To show the significance of endocarditis in reference to pathological anatomy, the statistics of Dr. Pve-Smith are quoted, according to which, out of eleven autopsies of chorea, recent or old endocarditic products were found upon the valves in every one. With regard to the theory that the endocarditis is the immediate cause of the chorea, either through inflammatory products of the valves becoming mixed with the blood, as first suggested by Kirkes, or through capillary embolism of the corpus striatum and its vicinity, according to the view of Broadbent, and Hughlings Jackson, the author, as may be expected, does not fully solve the problems of this perplexing disease.

Especially does the singular fact remain unexplained, which experience has established, namely, that in chorea, distinctly the consequence of fright, the usual vegetations may be found upon the valves after death. The evidence of Steiner, Meynert, and Elischer is quoted, indicating the existence of diffuse irritative changes in the central ganglia and other parts, shown by proliferation of cells and interstitial growth of nuclei. The author does not include, however, the researches of Dr. Dickinson, who found well-marked changes in the nervous centres, and in five out of twenty-two fatal cases the valves of the heart free from vegetation, nor his theory that the beading of the valves is often the consequence of the choreic disturbance of the heart, while the cardiac has no share of the production of the nervous disease, large as is the influence of rheumatism in the relation.

Von Ziemssen does not commit himself to any positive view as to the pathogeny of the disease. While admitting that embolism may act as an irritant cause and set up the irritative processes in the nervous centres which appear to form the essential part of the disease, he does not accept this as a general explanation, and is disposed to think that there may be some other unknown connexion between chorea and endocarditis.

In the article on eclampsia, which, as well as that on epilepsy, is contributed by Nothnagel, only a subordinate consideration is given to the puerperal form of the disease. The definition of eclampsia is made to include all those cases in which, independently of positive organic diseases, epileptiform spasms present themselves as an independent acute malady, and in which the same mechanism in the establishment of paroxysms, generally in the way of reflex excitement, comes into play, as in the epileptic seizure itself. The definition thus comes very close to that of an acute epilepsy, and eclampsia differs chiefly in the fact that no persistent change in the brain or central ganglia exists, the disease ending with a few paroxysms following quickly after each other, or even with a single one. As another consequence the disease scarcely ever breaks out spontaneously, but is almost always excited by a centripetal irritation.

eclampsia as thus defined only those cases of puerperal convulsions are referred in which no albumen whatever is present, or merely a trace after the paroxysms only and probably then the result of the latter.

In the article on hysteria, contributed by Jolly, a judicious mean is kept between the views which pay too exclusive a regard on the one hand to the state of the general nervous system, and, on the other, to sources of local irritation. A congenital difference of predisposition in the two sexes flows immediately from the fact that even in childhood hysteria affects girls much more frequently than boys, while there can be as yet no question of a difference of physical function. The importance of physical function however is shown by the preponderance of the disease during active sexual life as occasioned by morbid or excited conditions of the female genital organs, and its tendency to diminish at an age when the functions of these organs cease. author believes however from his personal experience that on investigation the presence of disease of the genital organs will be proved in scarcely a half of all hysterical cases, and that, even when present, this disease frequently plays the part of an exciting cause to a pre-existing tendency to hysteria.

In cases of hysteria in the male sex the author has found, with greater comparative frequency, a cause in sexual over-irritation induced by onanism. In some cases also he has observed chronic diseases of the urethra and prostate to play a part in causation.

Hysteria is defined as a general neurosis, of which the most constant symptom is a condition of increased irritability to physical and psychical stimuli. The consequences of this increased irritability are pain, neuralgia, and hallucination, in the sensory, and convulsions in the motor, tract. But to this must be added the peculiarity that there occur in hysteria, not only the symptoms of increased, but also those of diminished, irritability, so that anæsthesia may take the place of hyperæsthesia, and paralysis that of convulsion, and these opposite conditions frequently co-exist in different portions of the nervous system. Finally there may be altered

powers of the organs of secretion and excretion dependent upon the influence of the nervous system.

In seeking to localise the morbid processes of hysteria, the author regards the most prominent as being diseased reflex actions of various kinds, whose cause is to be conjecturally sought for chiefly in a condition of exalted irritability of the sensory portions, both of brain and spinal cord, but may involve also exalted sensibility of the peripheral sensory nerves. The motor he considers, as, in part, a direct consequence of the sensory irritative phenomena, but assumes also, in many cases, a morbid increase or diminution of irritability in motor-centres. A very full account is given of the symptomatology of the affection, under which heading is noticed the frequent occurrence of ovaralgia in the hysterical, and the influence of pressure over the affected organs in determining characteristic hysterical manifestations. phenomenon scarcely appears however to receive as much attention as it deserves, and the author considers that, when present, it must be placed in the same category as the hyperæsthesiæ of other parts, believing that demonstrable changes in the ovaries are only exceptionally present.

The other articles in the volume are those of Eulenberg on Vaso-motor and Trophic Neurosis and Catalepsy, of Bauer, on Tetanus, and of Kussmaul on Disturbances of Speech.

Abstracts of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Mecting, Wednesday, July 3rd, 1878.

DR. CHARLES WEST, President, in the Chair.

Tarnier's Forceps.

Dr. Edds showed, for Dr. Robert Barnes, the latest modification introduced by M. Tarnier into his obstetric forceps. The traction stems were secured by a pivot to the angles of the blades, instead of being, as in the original forceps, attached after the introduction of the prehensile branches. They were also divided into half, so that the instrument slipped readily into place, and the other half was

afterwards attached. The prehensile branches were also somewhat shorter than in the former instrument.

Dr. Wiltshire regretted that he had not known that this modified instrument was to be exhibited that evening, or he would have shown a modification of his own, which he considered much better. He had invented a simple catch, by which the traction stems and prehensile branches were incorporated into one for introduction, and which was afterwards easily unhinged. In the instrument shown there was a projecting screw, which would be likely to injure the perineum.

The President observed that Tarnier's forceps were doubtless

designed for use in the dorsal position.

Dr. SAVAGE asked whether that apparatus were of much assistance. He thought the ordinary long forceps did their duty very well, and believed that if any young practitioner fancied he could easily deliver with M. Tarnier's instrument, he would find he was very much mistaken.

Dr. WILTSHIRE said that he had used the instrument successfully when two other gentlemen had failed with the long forceps. The head glided down with great ease.

Dr. Aveling knew that Dr. Barnes did not himself recommend the instrument, considering it too complicated. It had three screws, eight joints, and eleven loose pieces, to which Dr. Wiltshire had added two catches.

Double Ovarian Cysts with Fibroid Tumour of the Uterus.

Dr. Edgs showed a specimen and communicated the particulars of a case in which the above conditions co-existed with a considerable amount of ascitic fluid from peritonitis, and which well exemplified the difficulty of diagnosis in some forms of abdominal tumours. patient, aged fifty-eight, first came under treatment for flooding at her periods in 1871. The uterus was then found studded with small fibroids, and there was a fulness in the sacral region. The uterus was at first free, the cervix conical, the os small. Latterly there had been some marked enlargement of the abdomen, and during the last four months this had produced much discomfort from weight and dyspnœa. On admission the abdomen measured forty-two inches just below the umbilicus, and was tense and resistant, superficial fluctuation being readily detected all over. On vaginal examination the pelvis was found blocked up by a firm cystic growth behind the uterus, which was pushed up towards the pelvic brim, and fixed. The abdomen was dull on percussion throughout, except in the lumbar regions. On May 10th she was tapped by Dr. Hall Davis, and five and a half pints of a smoky blood-stained fluid were withdrawn; specific gravity, 1017; albumen seven-eighths. The operation greatly relieved her symptoms, and her general health appeared to improve; but on the 19th she died quite suddenly. The post-mortem examination disclosed considerable adhesions in the upper part of the peritoneal cavity, where the intestines lay closely packed and adherent to each other. The lower part of the cavity contained about twelve pints of a highly albuminous fluid of 1032 sp. gr. A large ovoidal cyst occupied the left iliac lumbar, and part of the hypogastric regions; it sprang by a pedicle from the left ovary, and contained thirty ounces of dark-brown fluid of sp. gr. 1016. The peritoneum, not concealed by the cyst, was extremely inflamed. The fundus uteri contained several intra-mural fibroids, and on removing the pelvic viscera, Douglas's pouch was found completely occupied by another cystic tumour, half the size of the former, multilocular, and attached to the left ovary. It contained sixteen ounces of a highly albuminous fluid of 1030 sp. gr. The other organs were fairly healthy. To these particulars Dr. Edis added the following remarks:-"The fact of a fibroid condition of the uterus having been detected seven years previously, the wedging in the sacral cavity of the enlarged left ovary, the menorrhagia, and gradual enlargement of the abdomen, seemed to point to fibro-cystic disease. The accumulation of fluid in the abdomen somewhat rapidly during the last few months of life, together with a certain amount of discomfort, clearly pointed to a peritonitis with effusion of serous fluid. The patient only presented herself at long intervals at the out-patient department; the abdomen was too distended to admit of the enlargement of the left ovary being diagnosed just previous to her admission into hospital."

Pessary for Prolapse of the Uterus.

Dr. Galabin showed a modified form of lever pessary intended for those cases of prolapse in which the perineum had been destroyed and neither an ordinary Hodge's pessary nor the ring pessary of rubber-covered spiral spring could be retained. He had for several years used in such cases a form of Hodge's pessary bent up into a U shape, so that the anterior limb was turned quite upward. In the instrument now shown, which was constructed of vulcanite, the modification was introduced of making the anterior limb in the form of a cylinder about three-fifths of an inch in thickness, so that its pressure was more readily tolerated. The essential point in the mechanism of the instrument was that the anterior limb indented the anterior vaginal wall into a pouch and rested high above the apex of the pubic arch, not against the rami. Its escape was prevented by the posterior surface of the symphysis, and its retention was quite independent of the perineum. He had found the pressure on the base of the bladder well tolerated in cases where the vaginal walls were lax, even with the old form of instrument. One of these had been worn contrary to directions for two years without any inspection or even the use of a syringe, but had caused no irritation. A diagram drawn to the scale of Nature was shown, illustrating the position which the pessary would occupy in the pelvis.

Ovum Forceps.

Dr. Heywood Smith showed a modification of his ovum forceps. The fenestræ were made longitudinally, to facilitate their introduction into the uterus, and when the handles were pressed firmly the edges of the blades closed completely the sides, and not merely the points, so that small growths could be removed with facility.

Forceps for Introduction of Laminaria Tents.

Dr. Heywood Smith also showed a new forceps bent as a sound for the introduction of laminaria tents, the design of Mr. Coley, House Physician at the Women's Hospital. By means of this instrument the tent could be introduced even in cases where the canal was much bent from the presence of fibroid tumours.

Cystic Degeneration of Ovum.

Dr. FITZPATRICK showed a specimen of the above, which had been removed that morning. He had recently been confronted with two very puzzling cases of persistent hæmorrhage, both of which resulted in the extrusion of a mole from the uterus. The first case occurred in a young woman; the second, that from which the present specimen was obtained, occurred in an elderly person, whose generative functions appeared to have almost ceased. The specimen was a good example of cystic or hydatidiform degeneration of the ovum.

Model of Irrigation Bed.

Dr. Playfair showed for Dr. Gaillard Thomas, of New York, the model of a bed which he had contrived for cases of puerperal hyperpyrexia requiring the continued application of cold. The model was simply a small folding cot with a sheeting of waterproof. Dr. Playfair added that in his case of puerperal septicæmia, the publication of which had led to the contrivance of Dr. Thomas's model, he had made use of an expedient which he thought was better adapted for the purpose than Dr. Thomas's bed. He had placed the patient on an ordinary water-bed, into which iced water was forced at intervals by means of an ordinary garden pump. In certain cases the cot shown might prove useful, but in those severe cases in which it was impossible to move the patient he preferred his own contrivance.

Case of Double Monster.

Dr. Godson showed a case of conjoined twins, which had occurred in the practice of Mr. Eaton, of Ancaster. The mother was a slight, delicate woman, aged forty, and had previously had seven children, born alive. She menstruated last at Christmas, 1877, and suffered considerably during her pregnancy, the child being felt by her as if

placed "cross-ways." Her confinement took place on the 5th ult., a large quantity of liquor amnii having escaped a week before. When examined, all four legs were found presenting, and the os fully dilated. An attempt was made to bring one child down, and return the other; but on more careful examination they were found immovably fixed together, and there was considerable difficulty in bringing them into the world. Extraction was effected by hooking the hand over the band of union. The union was from the umbilicus up to nearly the top of the sternum, and both children were girls.

On Some of the Changes in the Uterus resulting from Gestation, and on their Value in the Diagnosis of Parity.

By John Williams, M.D.

The author, after referring to the Wainwright murder, said that cases of a similar nature might unfortunately arise in which the question, "Has a given uterus taken part in the processes of gestation and parturition?" would become one of the greatest moment. The conditions which it was his intention to describe in the present paper were those which remained after the process of involution was over say, the eighth week after delivery. The characters which usually supplied the data for the formation of an opinion on the question in view were not reliable, as any one of them might arise from other causes than pregnancy. The only certain marks, as he hoped to show, were to be found in the bloodvessels of the uterine wall. The arteries of the uterus underwent enlargement during gestation as well as the muscular elements of the organ, their calibre becoming increased, and their walls hypertrophied. After parturition their calibre became reduced owing to the contraction of the uterus, and the substance of their coats probably diminished; but they appeared to be affected by the retrograde process in a less degree than the tissues of the uterine walls generally. In a section of a uterus which had undergone involution, the arteries projected beyond the surrounding surface, presented thick yellowish-white walls, more opaque than the tissues around, and their canals remained patent. On microscopical examination, the connective tissue around the arteries was found to be increased in quantity, the arterial muscular coat was greatly hypertrophied, and the inner wall considerably thickened. The vessels appeared, moreover, more numerous than in the virgin organ. To estimate the exact value of these conditions in the diagnosis of the existence of previous pregnancy, three questions should be answered: (1) Was the condition described present in all uteri which had been gravid? (2) Was it a permanent condition? (3) Was it simulated by disease? Setting aside such rare and exceptional cases as those in which the uterus became reduced after parturition to a mere membranous sac, the author had found the characters he had described in all the uteri which had born children, which he had examined during the last five years. He had found them as long as

fifteen years after the last pregnancy, and eight years after the cessation of menstruation, and under such circumstances their permanency, he thought, might be fairly inferred. He had never seen the appearances brought about by disease, and neither he, nor, as far as he was aware, any other observer, had found them in the virgin organ. must remain for further experience to decide the question whether similar appearances could be produced by the presence of a fibroid or other tumour. It could not indeed at present be asserted that the state of the uterine arteries described furnished positive proof of parity, but at the same time it must be admitted that it afforded the strongest presumptive evidence we possessed of that condition, while further research might show that it amounted to absolute proof of previous gestation. Passing on to the veins or sinuses of the uterus, the author said that these were all enlarged during gestation, but the enlargement was far more marked in that part of the wall to which the placenta was attached. Friedländer had investigated the condition of this part during the last two months of pregnancy, and found that at the eighth month many of the venous sinuses were surrounded by a wall 0.04 mm. in thickness; this wall contained abundant tolerably large nucleated cells in a clear homogeneous matrix, which became distinctly coloured by carmine solution. The contents of the sinus appeared to consist, not only of blood corpuscles, but also of a greater or less number of dark granular cells, containing two to five nuclei, one of which had the appearance of a vacuole. These, which were regarded by Friedländer as wandering cells from the decidua, at last completely filled the sinuses, and coaguiation took place, the clots showing a network of fine threads. Other sinuses, though not filled with these cells, also contained coagula at this period (eighth month). The author had only had an opportunity of examining one pregnant uterus, but after delivery he had not unfrequently found clots with a network of fine threads, though he had only rarely seen accumulation of large granular cells occupying the sinuses near the inner surface. At the end of four weeks, however, a great change had taken place. The walls of the sinuses at the placental site were much thickened, being due in part to a thin zone of connective tissue, within which was a granular glassy-looking transparent substance thrown into folds. The interior of the vessel was either entirely filled with these folds, or its centre was occupied with the organised remains of a clot, or a narrow lumen might still be left. The folded layer when torn by needles broke into particles of a polygonal shape similar to some of the epithelial cells originally lining the sinus, and it appeared to be a distinct growth resulting from the proliferation of these cells. This condition had been found by the author, though somewhat indistinctly, twelve months after delivery. It might therefore be regarded as diagnostic of the previous existence of pregnancy; and when found justified a positive answer as to parity. It was true the structures described were not permanent, but they were discoverable for twelve months after parturition.

The PRESIDENT said that the best thanks of the Society were due to Dr. Williams for his interesting paper on a subject the importance

of which it was impossible to exaggerate.

Dr. Matthews Duncan expressed his sense of the extreme value of the contribution, and Dr. Playfair, while hesitating to pass any criticism upon the paper, said that he would not like the occasion to pass without bearing witness to the ease with which the changes described by Dr. Williams could be made out under the microscope. He did not doubt that when one had once had them pointed out to him, he would be able to recognise them again.

Dr. SAVAGE asked if Dr. Williams was perfectly sure that what he

had described might be taken as a precise criterion of parity.

Dr. WILLIAMS stated in reply that he regarded the appearances found in the sinuses of the uterine wall at the placental site as inimitable, and therefore diagnostic of previous pregnancy. With regard to the value of the condition of the arteries which had been described, further research was necessary before it could be estimated at its proper value.

Labour Complicated by an Ovarian Cyst.

This case was communicated by Mr. A. H. Brewer, of Dalston. It occurred in a woman, aged thirty-five, who had already had one natural labour and one in which she had been delivered by craniotomy. She had also been treated at Guy's Hospital for "falling of the womb." On examination some hours after the commencement of labour, the finger came upon, somewhat high up and a little posteriorly, what felt like a fully distended bag of waters enclosed in a tough and thickened membrane. The finger passed easily in front of it and came upon the fœtal head uncovered by membrane. With one finger in the vagina and another in the rectum it could be distinctly made out that the tumour was situate between the two passages. An ovarian cyst was diagnosed, and it was determined, on consultation, that there was no need of immediate interference. Half an hour later, however, a sudden gush of fluid occurred during a violent pain, and the tumour was found to have disappeared. After the delivery of the child, which occurred at once and without difficulty, an opening was found in the posterior vaginal wall, large enough to admit two fingers. For a week no bad symptom occurred, but on the eighth day there was diarrhoea, shivering, and some difficulty in passing urine. The discharge also became fœtid. got gradually worse till the twelfth day, when the temperature was On this day, while a catheter was being passed, a large quantity of purulent fluid poured from the vulva. On the next day she was seen by Dr. Godson, who found the perineum hard and distended as if by a feetal head, and the vagina blocked up by a tense swelling. On pressure upon this swelling the finger lacerated the vaginal wall and slipped into a cavity, from which a large quantity

of fluid of a very feetid odour immediately escaped. The cavity was at once syringed out with a solution of carbolic acid (1 to 80), and from that moment the patient steadily convalesced. About a fortnight later Mr. Brewer was shown a peculiar dry-looking membrane, which had been passed the previous day, and which Dr. Godson agreed with him in regarding as the cyst-wall of an ovarian tumour. When examined some weeks later the posterior vaginal wall was found thickened with cicatricial tissue, and this condition was still present in January of the present year when Mr. Brewer delivered the patient by forceps of a living male child.

Dr. Godson said that he had little to add to the record of this case except to remark that Nature had here pointed out to us the proper treatment in similar circumstances—viz., puncture of the vaginal wall. The case also illustrated the great value of carbolic acid lotion. The patient when he first saw her was in a very critical state, and he hardly thought that she would get over it, but under the treatment indicated she rapidly improved and made a very steady

recovery.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, 13th February, 1878.

Dr. DAVID WILSON, President, in the Chair.

Dr. Paul F. Mundé, of New York, was elected a Corresponding Fellow.

Professor SIMPSON exhibited a "Preparation of the Lower Part of the Bowel and Bladder of a Male Child Born with Imperforate Anus," the second son of a patient of Dr. White, of Aberdour. He had found it necessary to make an artificial anus. It was evident that the gut did not descend so far as the perineum, but was attached to the fundus of the bladder by fibrous cellular tissue. He had accordingly been obliged to dissect up to close upon the sacral promontory in the region of the sigmoid flexure of the colon, where he succeeded in entering the bowel, making his incision into a pouch formed by the bowel in that situation. Some meconium escaped from the artificial opening, but the child died two days subsequently.

Structure of a Channelled Polypus of the Cervix.

By Dr. C. E. UNDERHILL.

I have lately had an opportunity, through the kindness of Dr. Matthews Duncan, of examining a specimen of this somewhat rare form of polypus, and as no account of their microscopic structure has yet, so far as I know, been published, I have made the following notes of the case:—

The term "channelled" was given by Dr. Oldham, of London, to a peculiar form of cervical polypus, to which he was the first to direct attention, and it has been retained since. He says—"I would designate it channelled polypus of the cervix, from the fact that its interior is made up of large channels with occasional communications between them, and opening by large orifices on the free surface of the growth. . . . They do not appear as a number of pendent enlarged cysts clustering together, but rather as a solid single polypus, with numerous orifices marked out on the exterior."* He describes valvular openings on the surface of his second specimen, one of which was ragged, and gave vent to a quantity of sticky transparent mucus. These valvular openings were found to lead into the interior of the polypus, dilating into channels which were lined by a thin rugous membrane inflected from that covering the polypus; other channels led out here and there from a larger one; and so the growth was traversed throughout by these channels, which were all more or less full of mucus. He regards them as direct productions of the different elementary tissues of the womb. His drawings show them to have had a pedicle of much smaller diameter than the polypus

Billroth† describes and figures a case which refers to the class of channelled polypi (*Röhrenpolypen*), as described by Lee, and which appears from its leafy and laminated appearance to have a great

resemblance to the one I am going to describe.

J. F., aged forty-nine, single, had a polypus removed by another medical man three years ago; has suffered for some time past from frequent and severe flooding, and is in consequence very weak. On 13th October, 1876, Dr. Matthews Duncan removed from the cervix with scissors a polypus. It measured two inches in length by one and a half across, and half an inch thick; externally it was soft and slippery from the presence of mucus. On its surface were many very large openings, extending into the body of the polypus in a longitudinal direction. The whole tumour was flattened, and looked like a piece of hypertrophied mucous membrane. It may be not inaptly compared to a piece cut off from a large-meshed sponge, except that most of the openings did not pass entirely through the growth; hear the point of attachment, in the cervix, it was narrowed into a pedicle about as thick as a goose-quill. After hardening in Müller's fluid and spirit, the membrane lining the openings was corrugated in appearance, and covered with very minute elevations. Some beautiful sections, which were kindly made for me by Mr. D. J. Hamilton, presented the following appearances:—

To the naked eye the section looked like a long riband-shaped band of tissue, wound about and crossing itself in various directions, leaving very irregular spaces bounded by narrow strips of tissue.

^{*} Guy's Hospital Reports, second series, 1844, p. 115. † "Ueber den Bau der Schleim-polypen, Berlin," 1855, p. 25.

Under a low power (eighty diameters) these spaces are seen to be very numerous, and of exceedingly various sizes; into the larger ones project irregular dendriform promontories of tissue, lined with a long transparent cylindrical epithelium; these form an almost endless variety of capes, some long and narrow, others broad and rounded, or terminating in a serrated margin—all these margins, however irregular, being covered with the above-mentioned epithelium. The greater part of the exterior of the section is lined with this epithelium, but in parts it passed gradually into a tissue greatly resembling skin, but having no glands opening upon its surface; here the epithelial casing is flat and horny, and papillæ resembling those of the skin can be made out; other parts present a transition between these two very distinct forms of external surface. The tissue forming the bulk of the bands is of a cellular appearance, with numerous vessels.

Under a higher power (180 diameters) the most striking feature is the columnar epithelium everywhere lining the cavities; it is of great length, and very faintly, if at all, tinged by the carmine, except at the base, where a layer of nuclei is to be seen which takes the colour very deeply, and marks most plainly the point where the epithelium is attached to the main tissue of the tumour. The bulk of this tissue is found to consist of round lymphoid cells of considerable size, with bands of fibrous tissue here and there scattered irregularly among them. Numerous but small bloodvessels are seen lying in this tissue, and the fibrous bands are generally in relation with them. The skinlike layer, which forms the covering of part of the polypus, consists of pavement epithelium cells, flattened, and with the well-known prickly projections, most externally, becoming rounded or spindleshaped as they pass inwards to end in cone-shaped projections. The points of junction between these basement epithelium cells and the cylindrical epithelium of the gland cavities can be very distinctly seen, the rounded cells of the lower layers of the former becoming elongated, and set up on end side to side and soon attaining the full bulk and form of the gland cells. There is no limiting membrane or laver to be seen between the gland cavities and the body of the tumour. Some of the cylindrical epithelium cells present traces of cilia, but they are not anywhere very distinct. It will be seen that this polypus approaches in elementary structure very nearly to the one described in the Ed. Med. Fournal, May, 1876, as a true mucous polypus. The epithelium lining the gland spaces is exactly similar, and the stroma of the two tumours is greatly alike, except that in the present one the fibrous element is much less marked. But the arrangement of the elements is strikingly different. In the channelled polypus the area of the gland spaces is very much greater than that of the stroma containing them, their number and variety of outline, together with the size and regularity of the columnar epithelium lining them, making a section a very striking and beautiful object under the microscope. In the polypus formerly described these relations are reversed, the main bulk of the tumour is stroma, with gland

spaces in greater or less numbers appearing within it.

The channelled polypus appears to differ little in its mode of formation from ordinary mucous polypi, and may be looked upon as an ordinary mucous polypus, in which the gland element has grown to an extent out of all proportion to the stroma. We may conjecture the process to be as follows:—One or more of the follicles of the cervix become obstructed from some cause or other, the cells continuing to secrete mucus, a little swelling is produced on the mucous membrane; this drags more of the membrane with it; the whole becomes hypertrophied, and an exaggerated gland growth takes place within the enlarging tumour. Probably the largest follicles now burst and form the channels lined with epithelium, which gives its name to the tumour. The whole continues to enlarge until the symptoms to which it gives rise are sufficiently severe to cause its detection and removal. The small part covered with basement epithelium may be referred to a portion of the mucous membrane, where it passes from the interior to the exterior of the cervix, being implicated in the growth. It is to be remembered that this polypus was unusually large for a mucous polypus, and it may be that the channelling was greatly dependent upon its size and the length of time it had consequently taken to develop—that is to say, the larger such a tumour is, the more chance there is of the follicles becoming greatly distended, encroaching upon the stroma, bursting, and thus giving rise to the characteristic appearances.

Since the above was written I have had the opportunity of examining a second channelled polypus, kindly sent me by Professor Simpson, the structure of which was essentially the same, excepting that the part covered by a basement epithelium was much more extensive

than in the tumour just described.

Professor SIMPSON thought the Society was indebted to Dr. Underhill for his interesting paper. The point of transition of the basement into the columnar epithelium might depend upon the place from which the polypus sprang in the cervix uteri.

Dr. PEEL RITCHIE thought the paper was a valuable continuation of a series of papers which Dr. Underhill had contributed to the

forthcoming volume of Transactions.

The Condition of the Hymen and its Remains by Cohabitation, Childbearing, and Lying-in.

By Prof. Schroeder. From the Reports of the Meeting of the Physico-Medical Society at Erlangen, November 13th, 1871. Translated by Dr. KIRK DUNCANSON.

GENTLEMEN,—I take the liberty of submitting to you several drawings which illustrate the condition of the entrance to the vagina, and especially of the hymen, after cohabitation and childbearing. It is known to you, that hitherto the general opinion has been that the

hymen by the first cohabitation was torn, and that the cicatricial retracting remains of the same formed the carunculæ myrtiformes. It was also generally believed that those elevated warty excrescences at several places of the vaginal entrance were directly formed by the first coitus. This opinion does not agree with the real circumstances as inspection teaches. I have already, in the year 1867, drawn attention to the fact that the carunculæ myrtiformes are first formed in consequence of childbearing on account of parts of the hymen gangrenating.

This fact I find very frequently questioned in literature; it is confirmed, so far as I know, only by Bidder in Dorpat (see *Petersb. Med. Z.* 1868, p. 50). I have therefore, with the help of Dr. Alt, my assistant, had drawings made of the vaginal entrance in a number of pregnant females before and again after the birth of the child, so that we can easily be convinced of the effect of the act of child-

bearing by comparing the two drawings.

Before I submit the drawings to you, I will advance only a few

introductory remarks.

The hymen is formed, as you know, from a fold of the mucous membrane arising from the edge of the vaginal entrance, and encircling with its free edge the opening leading into the vagina. If we state generally that the hymen is semilunar in shape, that is not quite accurate. It is more correct to represent the hymen as a membrane stretched out in the entrance to the vagina, in which there is an opening, not in the centre, but towards the orifice of the urethra, so that the larger border on that account lies towards the posterior com-In front the rim of the hymen is indeed smaller, but it is not wanting. This is the usual condition of the hymen. The rarer formations we pass over, as it is our purpose only to determine the physiological condition of the hymen. The opening of the hymen is of very different sizes. As a rule, it is at least so wide that one can pass the finger into the vagina without injuring the border of mucous membrane. The fold not rarely gets indeed considerably destroyed thereby, or even tears quite easily with little bleeding; yet, in the great majority of cases, the hymen can be preserved by a careful manipulation, so that an uninjured hymen by no means forbids an examination per vaginam. Exceptionally the opening can be so small that we cannot introduce the finger through it; indeed, it has been known that in an abnormal manner the opening can be entirely wanting. But it is much more common that the opening in the hymen is wide, so that the finger passes easily through, or that even the impetuous pushing in of the penis produces no tearing of the hymen. In the drawings which I will submit to you, you will be astonished to see how frequently the hymen has remained wholly or almost entirely intact. The hymen frequently forms only a quite small stretchable rim, which is raised all round from the edge of the vaginal entrance in a pretty equal but insignificant elevation, and which on the pushing in of the penis simply yields without tearing.

The hymen, therefore, not rarely remains almost unchanged by cohabitation, whilst it is only dilated by often repeated coitus, or only slightly indented on its free edge through slight tears. Where the opening is smaller, then indeed it is torn to a considerable extent, yet it is never torn to such an extent that real carunculæ myrtiformes are formed. These latter are formed, as we can easily convince ourselves by examining the vaginal entrance of sterile married women or of prostitutes, not even after very frequently repeated coitus. Through the pushing in of the penis the free fold of the hymen will at most be torn, so that one, two, or more tears are formed, which sometimes, but not at all regularly, reach the base of the hymen. Such tears are not rarely found just towards the back, most frequently towards the back laterally, but also just towards the side, most rarely forwards. As a rule, there are only one, two, or three; still, they may become much more numerous, and in the most extreme cases the hymen is changed into a continuous row of small projecting points. But in such cases there is always found, where the hymen springs from the edge of the vaginal entrance, a connexion between the separate small pieces, however numerous the tears may be. These stand here close by one another, there is never a space between them; every trace of the hymen has also never disappeared at that place of the vaginal entrance. On account of this condition, the entrance to the vagina of persons who have not borne children is characterised in contradistinction to that of others who have borne a child.

With the latter, the vaginal entrance undergoes, just in consequence of the birth, great changes. By the birth the narrow vaginal entrance suffers a dilatation when the head cuts out through it, which, as a rule, is not possible without lesions. We see, therefore, in the case of primiparæ, as well as of women whose entrance to the vagina has not yet been distended by former births, quite regular tears in the mucous membrane posteriorly, laterally, as well as anteriorly. But, besides that, the shreds of the hymen suffer a considerable bruising. If we examine the vaginal entrance of a primipara immediately after the delivery, when the blood has been carefully wiped away, we see the parts of the hymen still completely preserved, but infiltrated with blood, of a swollen appearance, and of a bluish-black colour. If we examine again a few days later, we find, in place of separate shreds, small ulcers, with a yellow exudation, or already a good granulating base. At the place where these ulcers are every trace of the hymen disappears, whilst on the other less bruised places remains of the hymen are preserved. These remaining parts which are preserved after the birth are the carunculæ myrtiformes. How much there remains preserved of the hymen is very varied. The fold of mucous membrane below the orificium urethræ is commonly preserved, and is not usually reckoned to the carunculæ myrtiformes. Besides, there remains behind in the vaginal entrance different shredlike, warty, or tongue-shaped remains.

The original pencil-drawings, executed by Dr. Alt and lent by Professor Schroeder, were then exhibited, showing the appearance of the hymen before and after parturition in thirteen cases of primiparæ and six cases of multiparæ.

Dr. Wilson thanked Dr. Duncanson for bringing the paper before the Society, and for the valuable illustrations which accom-

panied it.

Professor Simpson was very glad to have had an opportunity of seeing Professor Schroeder's drawings, which show incontestably the changes which take place in the condition of the hymen in consequence of labour. There may be some doubt as to the manner in which these changes are brought about, whether by direct laceration or bruising and subsequent sloughing of parts of the hymen. But these drawings illustrate the results produced by the passage of the head, not only in primiparæ, but also in multiparous patients. It was possible to understand the cases in which the hymen had not been torn in spite of the introduction of the penis, when one considers the rich supply of bloodvessels to the parts, making them more soft and easily distensible, and so less liable to tear. Perhaps we were too much given to thinking of the hymen as a mere thin membrane, whereas it was frequently a comparatively thick, fleshy structure.

Dr. PEEL RITCHIE observed that, if we accept these views, we have to alter our opinions on some medico-legal points in connexion with rape and similar subjects. He was taught that it was very rare to find

an intact hymen at all.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, February 9th, 1878.
S. M. MACSWINEY, M.D., Vice-President, in the Chair.

The late Dr. Churchill.

Dr. M'CLINTOCK.—Before we proceed with the ordinary business, I have to ask your permission to move a resolution. It is always distressing to have to refer to the death of a fellow-member. It is peculiarly so on the present occasion, when the resolution has reference to one who was endeared to me by over twenty-five years of warm friendship. I believe that it would be quite unnecessary for me here to dilate on the professional character of the late Dr. Churchill. His reputation as an obstetric writer was of the highest degree. For nearly a quarter of a century his works on midwifery and the diseases of women and children have been text-books universally read and referred to; have been in the hands of students and practitioners alike, and have been

republished in America and translated into European languages. As a practitioner Dr. Churchill was personally known to us all. There are few members of the Society who have not had at one time or another to benefit by his great experience and matured judgment. a gentleman and a member of the medical profession he was, I need hardly say, of unsulfied reputation. He maintained the honour and dignity of the profession in every relation of life and in every position. In addition to this, as most of you know, he was a man of cultivated understanding and of very enlarged Christianity of heart. I need say no more to commend the following resolution to the acceptance of the Society:—"Resolved: That we place on record our sincere regret at the decease of a distinguished fellow-member, Dr. Churchill, who, from the foundation of the Society until the time of his death embracing a period of nearly forty years-never ceased to take a warm and active interest in its welfare; and who, by his own professional eminence as well as the moral weight of his character, contributed in no small degree to the reputation of the Society."

Dr. Denham.—I have very great pleasure indeed in seconding

the resolution so ably proposed.

The CHAIRMAN.—Gentlemen, you have heard the resolution which has been proposed by Dr. M'Clintock and seconded by Dr. Denham. It is the only tribute which this Society can now pay to the memory of a former President who was so endeared to every member of the Society; and it has been proposed in terms so appropriate and graceful that nothing need be added.

The resolution was passed nem. con.

Specimen of Head of Fætus.

Dr. W. J. Smyly.—The specimen I have the honour to lay before the Society this evening is the head of a fœtus presenting a spoonshaped fracture and depression on the left side of the frontal bone. These injuries are sufficiently uncommon from any cause, but are especially rare when the fracture takes place by the unaided contraction of the uterus. They are generally caused by instrumental delivery when the bone is dragged past the prominence of the sacrum. In the present case it was the woman's seventh pregnancy. She had had an abortion in 1876, and she again became pregnant last year. Her last menstruation was on the 7th of April, and the child was born on the 23rd of December, so that the child was an eight months' fœtus. Labour commenced on the 22nd of December, at four o'clock A.M., and the membranes gave way at three o'clock the following afternoon. She was seen shortly afterwards by one of the pupils, who on examination found that she was in the second stage, the os being fully dilated; but the head was still above the brim. With that exception there was nothing abnormal. I examined her again at nine o'clock in the evening, and found three or four loops of the cord in the vagina, but quite pulseless. The child being dead, I

considered it advisable to let the labour go on of itself. At half-past one o'clock on the morning of the 23rd no advance had been made since four o'clock the previous afternoon. The head at this time had not entered the brim of the pelvis. While Dr. Malone was making an examination with one of the intern pupils of the hospital he suddenly felt the head come down with a jerk, and the child was immediately afterwards born. He had some difficulty in extracting the shoulders. The child was of course dead, but apparently had not been so for a very long time. There was no scalp tumour, nor were there any signs of putrefaction or of uterine maceration. The fracture is situated in an uncommon position, for these fractures usually occur in the anterior portion of the parietal bone, and rarely on the frontal bone. The cause of the fracture was that, the pelvis being deformed, the biparietal diameter of the head could not enter the conjugate diameter of the pelvis. This caused the head to be displaced to the left side, and in the descent of the forehead the frontal bone came in contact with the promontory of the sacrum and was fractured. The reason of the fracture being so far forward is the small size of the head. The displacement of the head to the left side of the pelvis left room for the cord to descend on the right side.

Specimen of an Ovarian Cyst.

Dr. Atthill.—I have to exhibit an ovarian cyst which was removed by me to-day from a patient in the Rotunda Hospital. The patient was a girl aged about eighteen. She came under my care some four months ago, and at that time I diagnosed the existence of an ovarian cyst of small size, evidently unilocular and free from adhesion. Taking into account the condition of the patient I was indisposed to operate, and postponed doing so from time to time. I was unwilling to risk the life of the patient unless the symptoms should become aggravated. Of late she began to suffer considerable pain of a rather perplexing character, for though the pain was referred to the tumour there was no symptom whatever of peritonitis. There was no pain on pressure, and there were no rigors. This frequent occurrence of pain, coupled with the urgent wish of her relatives, decided me to operate. The operation in its steps was exceedingly simple and easy. The cyst was exposed without difficulty, and proved, as we had diagnosed, to be unilocular and free from adhesions. I was surprised, on introducing a trocar, to find that it contained only pure pus. We removed it, and a very small quantity—a drachm or two—escaped into the abdominal cavity. The cyst was then turned out, and the pedicle secured by a silk ligature, and returned into the cavity of the abdomen. The cyst has not been opened yet. The fact of its being in a state of suppuration is very satisfactory, for although the escape of pus into the abdomen somewhat increased the risk, it was quite evident that the patient would have succumbed before long if we had

not operated on her. The cyst is exceedingly small, and the quantity of pus in it was not more than a pint and a half. It was nearly free from solid matter. The patient up to the present is in a very satisfactory condition. Her pulse is about 110, and her temperature about 101°.

Adjourned Discussion on Transfusion.

The discussion on Dr. M'Clintock's case of transfusion, communicated at the preceding meeting of the Society, was then resumed.

Dr. Robert M'Donnell.—Before the discussion proceeds I wish to show and explain my transfusion apparatus. As the operation is one of great emergency, the case should contain every requisite, and mine is even provided with candles, which are often needed in the houses of the poor. The only thing you have to ask for is some warm water and an ordinary jug. The first thing to be done is to secure the arm of the person who is to give the blood. Bleeding is nowadays so rarely performed, that gentlemen who require to perform transfusion have frequently to begin by learning to bleed—a great many students of the present day having never seen it done. There is an india-rubber band which is strapped round the arm, and causes sufficient pressure. As the blood flows into the vessel provided to receive it, it is stirred with a clean glass rod. In a very short time the blood commences to coagulate; and as soon as it has coagulated we strain it through a piece of muslin or a clean pocket-handkerchief which has been previously scalded, into a perfectly clean vessel. The blood is then poured into the pipette at the top or sucked up into it. An india-rubber tubing is used to facilitate matters. When the pipette is filled, it is placed in a jug of water heated to 100 degrees. It will remain there at the proper temperature ready for use; and there will be nothing to confuse the operator during the second part of the operation, which requires some little delay, and also involves care. It is not necessary to use so much as fills the pipette; the most successful operations have been accomplished with about threefourths of the quantity it contains, or from six to eight ounces of blood. The india-rubber tube enlarges at the centre into a bag; and by squeezing this a considerable impulse can be given to the tube, and the pulsations of the heart imitated. The next part of the operation involves the difficulty of finding a vein in the patient, who is generally quite bloodless. In a fattish person, although we may not be able to see the vein, we will be able to feel it by drawing the point of the finger across the elbow, and it will sink to where the vein is. The skin is pinched up, and an incision made with a small sharppointed knife. When the vein is hooked up, a small opening is made in it sideways. The probe point, which extends a considerable way beyond the eye of the instrument, is passed into the vein; and the blood then comes through, and we know that all the air has been expelled. If the weight of the blood be not sufficient to force it into

the vein of the patient, blowing into the instrument or squeezing the

bag of the india-rubber tube will force it in.

Dr. MACAN.—I have listened with great pleasure to the successful case of transfusion which has been brought under our notice by Dr. M'Clintock, especially as he was before, to a slight extent, a disbeliever in the operation, and not without cause. From what I have heard from Dr. M'Donnell, I understand that those cases of transfusion do best that require the least blood—in other words, those cases are most successful in which four or five ounces of blood are put in to replace forty or fifty ounces lost. The object, therefore, is not to replace the blood lost, but to supply a stimulant to the brain and heart. The only attempt mechanically to replace lost blood has been in cholera cases, in which large quantities of saline solution have been injected. There are different degrees of anæmia. In one of these the centres are paralysed from sudden loss of blood, but there is still a sufficient quantity of blood remaining in the body to carry on life if it were properly distributed. It is in these cases that the treatment has proved most successful, whether it has been by the subcutaneous injection of ether, by the application of Esmarch's bandages to the limbs, or, lastly, by the transfusion of blood. There is no danger in the mere transfusion of a large quantity of blood. Experiments on animals have shown that twice or three times the quantity of blood contained in an animal can be injected into it without causing any dangerous symptoms. But it has been found that the injection of a large quantity is, I will not say impossible, but useless; for, as Dr. M'Donnell has stated, the most brilliant results have been obtained from the transfusion of a small quantity of blood. Auto-transfusion, or the bandaging of the limbs, is most applicable to cases in which a sudden loss of blood has paralysed the nervous centres, and the blood remaining in the body is badly distributed; and in such cases this method has been attended with brilliant results. The veins of the abdomen receive a large quantity of blood, and when the limbs are bandaged and friction applied to the abdomen the blood is sent on from those veins to the heart, and the person at once rallies. If we want to see transfusion carried to an extreme we have to go to Germany, where, in some cases, transfusion is practised before giving chloroform, in order to counteract the anæmia of the brain caused by the chloroform. Again, blood lost in an operation may be at once transfused into the patient, so that, if transfusion should become an operation commonly practised, I believe there will be nothing to prevent the blood lost by a woman in post-partum hæmorrhage from being returned into her body after it has been defibrinated. I think there is still room for doubt as to whether defibrinated blood be the best for use or not, especially in the cases of puerperal women. fibrinated blood has not the same effect in causing the contraction of the womb and the arrest of hæmorrhage that blood which has not been deprived of its fibrine has. The keeping of the patient's head very low—as is always done in such cases in the Rotunda Hospitalas well as the subcutaneous injection of ether and the use of Esmarch's bandages, have the effect of redistributing the blood and giving the requisite stimulus to the nervous centres; when cases go beyond all these means, I would attempt transfusion itself. As to the best means of transfusion, it is not for me (not having had any personal experience in the matter) to pronounce an opinion; but from knowledge derived from books I would be inclined to think that transfusion from artery to vein, with two small glass tubes between the vessels, would be the most practicable mode of transfusing. As to transfusion becoming an operation to be brought generally into practice, I am very doubtful. The greatest obstetricians on the Continent have come to the conclusion that, even if it be a good operation, it is still only capable of being used in very few cases.

Dr. Kidd.—I have so often expressed my opinion as to transfusion that I hesitate about rising now, especially as my experience of it has not been successful. I believe, however, that that was not the fault of the operation, but of the time at which it was performed. I have myself, in some two or three instances, performed transfusion, but in cases which I believed at the time to be utterly hopeless, and which therefore did not afford a fair trial to the operation. I am sorry I did not hear Dr. M'Clintock's paper; however, I have considered the whole question many times very carefully. I believe the method proposed by Dr. M'Donnell to be the best and safest that has yet been adopted. I believe that the danger of the formation of coagula in transfusing blood which contains the natural proportion of fibrine is so great that it adds very materially to the risk of the operation. We may look on it as a perfectly established physiological fact that defibrinated blood is amply sufficient to restore the patient and carry on the functions of life. All the most advanced physiologists maintain that fibrine is excrementitious matter, and not an essential part of the blood. In my opinion, transfusion, in order to be useful, ought to be adopted at an earlier stage than it has been hitherto. I believe the reason why it failed in the cases in which I tried it was that it had not been employed early enough. In those cases I was called on when it was too late to have any chance of saving the life of the patient. There are so many cases now on record in which the operation has been performed without any evil consequences ensuing that I should not hesitate about performing it.

Dr. Denham.—I have very little to add to what has been already said. We are all of opinion that this operation is frequently necessary and often desirable, and that great risk is often run in postponing it. We should seldom wait for the purpose of having recourse to Esmarch's bandages and other means of that sort. I am satisfied that the operation is a perfectly safe one in the hands of such men as Dr. M'Donnell; and I feel assured that the success of it will be rendered much more certain if it be undertaken earlier than has been

hitherto the practice.

Dr. Kidd.--Permit me to add one word. In the application of

auto-transfusion it is important, not merely to lower the head, but also to raise the body. Our practice in the Coombe Hospital is to elevate the pelvis and also the feet and legs. In cases of extreme hæmorrhage we always use some solid body for the purpose of so placing the patient as to make an inclined plane from the heels to the head.

Dr. Denham.—In the Lying-in Hospital we raise the bed

altogether, which is the simplest way.

Dr. Macan.—That is what I meant when I spoke of lowering the head.

The CHAIRMAN.—It should be borne in mind that this method of transfusion is an especially Irish practice, as contrasted with the mode at present associated with the name of Roussel. An impartial person acquainted with both of those methods, will, I am sure, arrive at the conclusion that the weight of argument and evidence is altogether in favour of the adoption of Dr. M'Donnell's, or the Irish method. It is characterised by an extreme of simplicity and a minimum of difficulty, consistent with the accomplishment of the object in view, and recognises the latest and most authoritative expression of physiology on the subject of the part which fibrine plays, and the mode in which it is to be regarded as an element in the blood. The comparative amount of success which has hitherto attended the performance of Dr. M'Donnell's operation in Ireland, and the absence of any dangerous consequences in the cases in which it was performed, furnish additional arguments in favour of its adoption. The absence of any clots—such as almost every operator who has adopted Roussel's method, and with whose writings on the subject I am familiar, has stated that that method has a tendency to produce would alone be a sufficient ground for giving one vote in favour of Dr. M'Donnell's, or the Irish method. With reference to autotransfusion and the beneficial effects of elevating the body, I may recall the fact that more than thirty years ago the late Dr. O'Ferrall, while engaged in removing an enormous scrotal tumour, the history of which is published in The Dublin Hospital Gazette of the time, adopted, with my assistance, as his clinical clerk, the same method of getting rid of a large quantity of blood which was in the tumour.

Dr. Kidd.—I believe the principle of auto-transfusion was first described by Dr. Wise, of Middleton, in the county of Cork, in a paper contributed to the *Dublin Quarterly Journal*, soon after I became

editor of that journal.

Dr. M'CLINTOCK.—One point to which Dr. Macan has alluded has occasionally agitated my mind, and it is this—viz., the propriety of resorting to transfusion whilst any bleeding is going on. I do not myself think it should be tried until after the hæmorrhage has been completely suppressed. We know that bleeding will sometimes continue as long as there is any blood in the body, and only stop with the extinction of life. I cannot understand how transfusion

could bring about the contraction of the uterus and arrest hæmorrhage if the direct injection of perchloride of iron failed to do so.

Dr. M'Donnell.—I need hardly say that I am much gratified at having made a convert of so sound a practitioner as Dr. M'Clintock. I entirely concur in the advisability of what he has said as to not undertaking the operation unless hæmorrhage has entirely ceased. To attempt in such a way to save the life of a patient who was still bleeding would be like pouring water into a vessel without a bottom in it. Such a proceeding would be only calculated to bring into disrepute an operation which is most useful in proper cases. I failed to catch exactly whether Dr. Macan is in favour of the use of defibrinated blood or not. He spoke, in conclusion, of the advantage of direct transfusion of blood from an artery into a vein, and considers that such blood is better calculated to bring about contraction of the uterus and prevent hæmorrhage. But I think such an operation is attended with considerable danger. Before the law prohibited me from making experiments which are useful for the purpose of saving human life, I made a good many experiments involving the withdrawal of blood from living animals, and I was struck by the rapidity with which blood coagulates in the small tubes. Let me briefly go through the several steps necessary to be taken in that operation of bringing blood directly from an artery into the vein of a sinking patient. You have to get, say, the radial artery, and to put a small glass or silver tube into it. This is very difficult on account of the contraction of the arterial coat when it is exposed to the air. supposing you get it in where you have a small nozzle with an eye at the end of it, it is very difficult to put it into a small tube. This is one of the advantages of my instrument having a probed point a considerable way beyond the eye. But supposing this to be accomplished, you have next to put the canula into the arm of the other person. During the time occupied in getting the blood to pass from one to the other, a clot would be formed, so that the proceeding would commence by the throwing in of an embolus. That, to my mind, renders the attempt at direct transfusion of blood containing fibrine full of danger. Of all the apparatus that I know for transfusing with fibrine, the simplest and best is that of Dr. Aveling; but even in the case of that instrument the fibrine is apt to clog the valves. One end of it is put into the arm of the person giving the blood, and the other into that of the person who is to receive it, and there is also a bag in the india-rubber tube to accelerate the passage of the blood by squeezing; but there is still danger of a clot. And when we set against that, that for the purpose in question the fibrine appears of little use, I still adhere strongly to the opinion that it is better to use defibrinated blood. Let us consider what are the principal objects of transfusion. They are three in number. First, it serves a mechanical purpose in supplying something for the heart to grasp—a point d'appui for the circulating system; secondly, it is a

stimulant; and thirdly, it gives food. Defibrinated blood appears to accomplish all these objects. The patient who has suffered from bleeding is completely bloodless, and the heart has nothing to act That want would be, to a certain extent, supplied by the introduction into the system of any fluid. In the next place, the red corpuscles of the blood supply a stimulant. A case occurred in Jervis Street Hospital of a girl who was dying of tetanus. She was totally unable to swallow, and it was impossible to administer nourishment by enemata. She constantly exclaimed, "I am dying of hunger." It was a pitiable case, and had run on for a month from the receipt of the injury which produced the tetanus; and so I determined to try transfusion. It was accordingly performed. It did not exercise the slightest effect in controlling the spasms, and the patient's life was not ultimately saved, but it entirely took away her feeling of hunger and thirst. That showed that the transfusion in her case performed the part of a good meal; and there are many cases in which such a remedy may save life. We should remember, above all things, that the cases in which we are called upon to perform the operation of transfusion are for the most part cases of terrible emergency, and in which the life of the patient is in great jeopardy. We hope to grapple with a few of these cases, and to save them, which will be a great matter; and I cannot help thinking, from what I have seen, that we are justified in coming to the conclusion that if it be performed with ordinary dexterity, it is free from danger. It has not been attended—and I would again dwell on this—with any ecchymosis, bloody urine, or internal hæmorrhage, which have been described in some German clinical lectures. Furthermore, it is not attended with any pain to the patient, who is generally insensible.

Gynæcic Summary.

The Treatment of Imperforate Hymen.

In a review of the various cases of imperforate hymen published within the last few years, Dr. Albert Puech comments upon the method of treatment by evacuating, by means of the aspirator, small quantities at a time of the retained menstrual fluid, especially when the distension of the uterus has attained a considerable degree. The following, a case recorded by Dr. Hope, in the *British Medical Fournal* for February 28th, 1874, is one specially in point:—The uterus could not be felt above the pubes; but simultaneous examination by the bladder and rectum revealed the existence of a thick body between these two organs. The hymen was distended, and distinct fluctuation could be felt through it on pressure from above. It was punctured by an aspirator trocar, and by means of the aspi-

rator about half an ounce of thick fluid was withdrawn. Four days later the operation was repeated, and three ounces of fluid were extracted. Nevertheless, symptoms of fever and inflammation set in, and nine days after the first puncture the hymen was more distended than at first. On free incision, sixteen ounces of feetid liquid were

evacuated. Eventually the patient recovered.

The author remarks that this case shows that the use of the aspirator does not secure the advantages which might, à priori, have been expected, since, in spite of the small size of the opening, the retained fluid became feetid. He concludes that it does not, any more than other methods of operation, avert the danger of peritonitis, or of rupture of the distended Fallopian tubes, and that it is an insufficient protection against the entrance of air.—Annales de Gynécologie, February, 1878.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"The Mechanical System of Uterine Pathology." By Graily Hewitt, M.D., F.R.C.P. Longmans. 1878. Pp. 97.

"Contributions to the Physiology and Pathology of the Breast." By Charles Creighton, M.B. Macmillan & Co. 1878. Pp. 200.

"A Handbook of Uterine Therapeutics and of Diseases of Women." By Edward John Tilt, M.D. Fourth Edition. J. & A. Churchill. Pp. 472.

"Transactions of the American Medical Association." Vol. XXVIII.

Philadelphia. 1877. Pp. 694.

"Transactions of the American Gynecological Society." Vol. II.

Boston. 1878. London: Trübner & Co. Pp. 697.

"Pathologische Anatomie der Weiblichen Unfruchtbarkeit, deren Mechanik und Behandlung." Von Dr. Hermann Beigel. Braunschweig. 1878. Pp. 419.

"A Case of Vaginal Ovariotomy." By William Goodell, A.M.,

M.D. Philadelphia.

"Vascular Tumours of the Female Urethra." By A. Reeves

Jackson, A.M., M.D. Chicago.

Communications received from Dr. Graily Hewitt, Dr. Tilt, Professor Stephenson, Mr. Knowsley Thornton, Dr. Bradley, Dr. G. Hamilton, and Dr. Roper.

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Original Communications.

THE METHOD OF CONJOINT EXAMINATION IN GYNÆCOLOGICAL DIAGNOSIS.*

By Alfred Hegar,
Professor at the University of Freiburg.

In gynæcological investigation we make special use of the sense of touch. We are unfortunately not in a position to extend our visual examination further than to the vaginal cervix, and, under favourable circumstances, to a part of the cervical canal. Of the rectum only the lower portion is accessible to inspection, and the exploration of the bladder by speculum still leaves much to be desired. Thus, in the common maladies of the body of the uterus, its appendages, and the pelvic cellular tissue or peritoneum, we are reduced to the sense of touch.

The points accessible to our fingers or hand are the abdominal walls and the hollow organs of the pelvis, the urethra with the bladder, the genital canal, and the rectum. When we make simultaneous use of more than one accessible point, we speak of conjoint examination. To whom the credit is due of having first called attention to the value of this proceeding, it is difficult to say. It is incorrect to name Sims as its discoverer, as has recently been done. Before

^{*} From the Sammlung Klinische Vorträge. No. LXVI. —Vol., VI.

the appearance of his work on uterine surgery the method had already been described and illustrated in the writings of Schultze* and Holst.† A little later we find it mentioned in Veit's Manual.† Without wishing to dispute the credit due to all these authors for perfecting and making known the method, it may be maintained that the conjoint examination has made its way in a gradual and unobtrusive manner amongst all gynæcologists. It would naturally occur to any one to support the examining finger by pressure upon the abdominal walls, and so to bring within reach and hold steady parts which could not be fully touched, or which yielded and glided away from the finger. In obstetrics the golden rule of Wigand—namely, to support the hand introduced into the genital canal by the other hand laid upon the abdomen, and so control and assist it both in operations and examinations —has long played an important part.

In the present paper I propose to give a sketch of the different varieties of conjoint examination, to mention the chief difficulties which may arise, and to describe some new expedients for overcoming them. The points which are generally known I shall omit or only briefly mention.

We possess four accessible points for our sense of touch: abdominal walls, urinary organs, genital canal, and rectum. Of these two or three may always be used simultaneously. To employ all four at once would rarely attain any useful object. If we use two accessible points simultaneously, we have six combinations: abdominal walls with bladder (including the urethra), abdominal walls with genital canal, abdominal walls with rectum, bladder with genital canal, bladder with rectum, and genital canal with rectum.

By using three accessible points simultaneously we obtain four combinations: abdominal walls with bladder and genital canal, abdominal walls with bladder and rectum, abdominal walls with genital canal and rectum, and bladder with genital canal and rectum.

In a combination of the second class we employ either the

^{*} Jenaische Zeitschrift f. Med. u. Nat. Leipsig, i. p. 279, 1864. † Beiträge z. Geb. u. Gynäk., H. I. Tübingen, 1865, p. 1. ‡ "Krankh. d. Weibl. Geschlechtsorg," 2 Aufl. Erlangen, 1867, p. 254.

two hands or different fingers of the same hand. In a combination of the third class it is inevitably necessary to use separately different fingers of the same hand, while the other hand is employed at the third accessible point.

The choice of the combination depends chiefly upon the situation of the morbid condition to be explored, and the difficulty or facility of reaching the several parts. We choose the shortest way to reach our object. This rule, however, does not always suffice by itself. The different thicknesses of tissue through which we have to feel may influence the choice. The thin elastic wall of the rectum is often sufficient by itself to justify a preference of that canal to the vagina, which has thicker and more resisting walls, even though the finger should be able to reach as high or even higher through the latter.

Special circumstances may render the use of one or the other accessible point impossible or unadvisable, even though under other conditions it might have been the best. Thus, peritonitis, extreme tenderness, distension, excessive deposit of fat, or large abdominal tumours, often prevent palpation through the abdominal walls. The vagina may be rendered useless by atresia, stenosis, infiltration of its walls, and the like. In a virgin we must also pay regard to an unyielding hymen.

If we wish to make use of the uterus itself, and introduce the finger into its cavity, this almost always requires a special preliminary proceeding, the artificial dilatation of the cervix. This applies also to the urethra and bladder. Hence, even when an exploration through these parts would appear to be à priori the most advantageous, it is renounced in all cases in which it is possible to attain the object by other means.

The combinations of abdominal walls with genital canal and abdominal walls with rectum are in every-day use. They also suffice completely for by far the greater number of the investigations which come before us. We content ourselves here with the remark that we should never, when the slightest doubt exists, content ourselves with the exploration through abdominal walls and genital canal. If it were only for the purpose of confirmation, exploration of the

rectum is of the greatest value, and we remember making many an unexpected discovery on removing the finger from the vagina and introducing it into the rectum. At any rate, the state of affairs is often rendered thereby far more

Next in frequency comes the combination of genital canal with rectum. For this purpose we introduce one indexfinger into the rectum, and the other into the vagina; or, what is generally preferable, the thumb into the vagina, and the index-finger of the same hand into the rectum. We thus have the whole recto-vaginal septum between the fingers. Exudations, swellings, which depress the pouch of Douglas, or lie outside the peritoneum, infiltrations of the septum, losses of substance, or fistulæ, can thus be easily felt and judged of in reference to their size, form, and consistence. If the thumb be placed upon the anterior surface of the cervix uteri, while the index-finger is at the same time pressed high up the rectum, it is often possible to grasp the cervix, or even a portion of the uterine body between the fingers, and ascertain its exact condition.

The combinations in which the urethra and bladder form one of the accessible points* serve advantageously for diagnosis in diseases of the bladder itself, catarrhs, thickenings of its wall, excrescences, new growths, losses of substance, calculi. In the case of swellings in the vesico-uterine fossa or tumours growing from the anterior surface of the uterus, or extending in an anterior direction from the lateral walls of the pelvis, the examination through abdominal walls and bladder may be demanded. Infiltrations in the wall of the urethra or vesico-vaginal septum, with indurations, neoplasms, or losses of substances in the same parts, and neoplasms or indurations in the anterior wall of the cervix, also abnormal conditions of the ureters near their orifices, not unfrequently

^{* &}quot;Pippingsköld ueber Erweiterung d. Harnröhre," Beiträge zur Geb. u. Gynäkologie, her. von. d. Ges. f. Geb. in Berlin. Bd. iii. 1876, p. 249. Nöggerath. "The Vesico-Vaginal and Vesico-Rectal Touch," American

Journal of Obstetrics, Feb. 1875.
G. Simon. "Ueber die Methoden, die Weibl. Urinblase Zugängig zu machen, und über die Sondirung des Harnleiter's beim Weibe," Sammlung Klin. Voriräge, H. 88, 1875.

make it appear desirable to employ the combination of bladder with genital canal to ascertain exactly their relations. If the cervical canal is dilated by a sponge tent, the anterior uterine wall can often be seized between the fingers.

The combination of bladder with rectum may be of great value in the case of tumours in the uterine tissue or at its sides, whenever abdominal palpation is impossible or difficult, also in cases of inversion of the uterus, when it would allow the funnel-shaped opening to be readily felt, and in those of hæmatometra, especially in an occluded uterine horn. In atresia or stenosis of the vagina this method may become absolutely necessary to enable a judgment to be formed as to the extent of the defect, the thickness of tissue intervening between urethra or bladder and rectum, and the like.

Of the combinations in which three accessible points are utilised, there is only one suitable for frequent use, the remainder being likely to afford any special advantage only in exceptional cases. That, however, of abdominal walls with genital canal and rectum is of great service, not only for diagnostic but for certain therapeutic ends. Hitherto I have nowhere found any mention made of it, but, after several years' experience, I can recommend it in the strongest terms. I was led to adopt it while practising myself in rectal exploration. At first there is some difficulty in interpreting what is felt per rectum. I therefore introduced the thumb of the examining hand into the vagina and placed it upon the cervix, in order to recognise once for all the feel of this structure from the rectum, as well as somewhat to fix it. On future occasions I should have had no need of this verification: but I became convinced of further advantages. If the thumb is placed upon the cervix, while the finger in the rectum is passed upwards above the sacrouterine ligaments, which afford very good landmarks to the posterior surface of the body of the uterus, while the other hand laid upon the abdominal walls presses backwards towards the sacrum, the uterus may be held between the fingers in an extremely definite and firm manner. The thumb may also be brought into the anterior vaginal culde-sac and laid upon the anterior surface of the cervix and

body, and so the organ, with the help of the external hand to fix it, being partly pushed and partly pulled downwards, may be minutely explored.

In this manner I almost always succeed in replacing digitally a retroflexed uterus, even under the most difficult conditions. The index-finger in the rectum passes above the sacro-uterine ligaments to the posterior surface of the uterine body, raises it, and presses it forwards. The thumb is laid upon the anterior surface of the cervix and exercises a leverage by pressing it backwards and downwards. The external hand passes downwards into the pelvis by the last lumbar vertebra, and endeavours to command the posterior surface of the fundus so as to bring the organ forwards. In this manipulation the lateral semi-prone position will be found very advantageous.

We now pass on to the chief difficulties which may interfere with the examination, and the means of overcoming them.

The chief hindrances are extreme tension of the abdominal wall, excessively elevated intra-abdominal pressure, narrowness or rigidity of the vagina, especially of the several culs-de-sac, and finally impossibility or great difficulty in reaching and exploring the various portions of the pelvic organs or pathological products in the pelvic cavity, either because they are too distant or because they are so closely packed together that their separate boundaries and outlines cannot be felt.

A convenient place for the examination, the best being a table or a sufficently high couch, is an absolute necessity when the exploration is at all difficult. Bladder and rectum must be emptied.

To overcome the first difficulty—namely, excessive tension of the abdominal walls—the most valuable means is a suitable position of the body. Preference is generally given to a dorsal position, and that one of such a kind that the abdominal pressure may be reduced as much as possible—that is to say, a horizontal position of the trunk, with the head only slightly supported by a low pillow and the thighs raised nearly at right angles to the plane of the table. With

us in Germany the conjoint examination in the lateral, the lateral semi-prone, or the completely prone position is but little employed. It has indeed many inconveniences. The examiner must pass his hand between the thighs of the patient, so that in the lateral position his arm is pressed by the weight of the uppermost leg, unless a cushion is placed between the knees or the leg raised by an assistant. Besides, he must bear the weight of the viscera and the clothing, especially in the prone position. Yet the difficulties are not so great as is generally supposed, and of late we have not unfrequently made use of these positions, which under some circumstances may afford decided advantages. Thus it may be of importance to ascertain the change of place of an organ or of a tumour produced by a change of position. In the knee-elbow position the uterus may be freed from the restraint produced by the weight of a tumour pressing upon it, and its boundaries and mobility may then be more readily made out.

Mental emotions, as dread of the examination, or modesty, almost always produce excessive tension of the abdominal walls. The patients hold their breath completely for a time, breathe irregularly, and often put the abdominal muscles into such action that absolutely nothing can be discovered by palpation. The usual expedients, such as directions to keep the mouth open and breathe quietly, or distracting the patient's attention by conversation, often fail. It will frequently, however, be observed that, even though we fail to attain our object at the first examination, we do so quite easily at a second. It is a good plan, therefore, to spare the feelings of a sensitive person as much as possible, and rather to put off the attainment of the object sought to a second examination. The patients have then become acquainted with the physician and with the mode of proceeding. Their embarrassment has disappeared; they understand the purpose of the investigator and know how to follow his directions, which at first was impossible to them, notwithstanding the greatest goodwill.

Roederer recommended that, in order to discover tumours deeply situated in the abdomen, we should make the patient

breathe deeply, and then, during the expiration, follow up the retiring abdominal wall. Spiegelberg gives the same recommendation. The hand is, moreover, to remain firmly pressed after the first expiration, so as to retain during the following inspiration the ground which has been gained, and then press still deeper at the next expiration.

Nervous sobbing and crying may often be turned to useful account. During the spasmodic expirations which then occur the hand may be pressed in deeply, without meeting with resistance.

It is well known how easy the examination is in women after delivery, especially in persons whose abdomen had previously been greatly distended and then suddenly emptied. An approximation may be made to such a condition by causing the patient to drink copiously and hold her urine for a long time, and then pass it immediately before the examination. Still better is the plan of filling the rectum and bladder with a large quantity of fluid, and causing it to be retained as long as possible. Or the vagina may be plugged beforehand, a plan to which I shall again recur, since it secures another advantage also.

If all these expedients fail, there remains the recourse to anæsthesia. We have not of late made so much use of this as formerly, and find that if the devices already described, and others which have still to be mentioned, are skilfully carried out, it seldom becomes necessary.

The second difficulty consists in narrowness or shortness of the vagina and rigidity of its walls. We have here an excellent resource in preliminary plugging. If the vagina be tightly packed with cotton-wool about twenty-four hours before the exploration, or if a distended air-ball pessary be left for some time in the upper part of the vagina, the examination will be remarkably facilitated. By prolonged plugging the vagina can be wonderfully stretched and its walls rendered thin and yielding. It is true that in estimating the results of the exploration regard must be paid to the artificial dislocation of the pelvic organs, but these soon return to their place after removal of the tampon.

The last and often the greatest difficulty in the examination

consists in the fact that, notwithstanding external counterpressure, it is impossible for the finger introduced into the vagina or rectum to reach the parts which it is most important to explore, because they are too distant or lie too high. Sometimes, moreover, all the tissues in the pelvis, tumours, exudations, and organs are so packed together for want of room that it is impossible to ascertain by touch their individual boundaries.

Simon has recommended exploration of the rectum by the whole hand, in order to reach distant and high-lying parts. This method of research is not in general to be recommended. It is a proceeding which should only be admitted in cases in which portions of a tumour, or pelvic organs displaced far into the abdominal cavity, cannot be reached by the methods which will be described below. To say nothing of the fatal accidents which have happened, and the necessity of placing the patient very deeply under chloroform, we only, by this proceeding, reach by a circuitous way what we might much better have arrived at directly. We displace the organs of the pelvis, and especially the uterus, into the abdominal cavity, in order to manipulate them there in a roundabout way. Already, in the year 1865, Holst* had shown that, by the combination of abdominal walls with rectum, one or two fingers being introduced into the latter, we are fully in a position to manipulate the whole uterus, including its fundus and its lateral boundaries, and to demonstrate ovaries of the size of a cherry or hazel-nut. After reading his excellent article, which has not, as it appears, received the credit which it deserves, we have been fully convinced of the accuracy of the statements there made. When the abdominal walls allow the necessary counter-pressure, we can generally succeed in making the complete circuit of the uterus with the finger, and feeling even ovaries of the normal size, which latter indeed is often possible with the combination of abdominal walls with vagina. We can even trace the linea terminalis up to the horizontal ramus of the pubes, and explore thoroughly the whole contents of the pelvis.

^{*} Op. cit. H. I. p. 1.

If the abdominal walls are unyielding, or too thick and loaded with fat, or if swellings of any kind prevent the action of the external hand, or allow it only to be incompletely carried out, this simple proceeding fails to attain the object, and we must seek for further expedients. Here recourse has often been had to the sound, which has been used, not only to lengthen the exploring finger, but also to displace the uterus. Thus the uterus has been pressed by its means against the finger introduced into the rectum. The sound, however, is not to be recommended for such a purpose, for reasons which I need not go into here.

For some years we have been accustomed to employ a method which is at once effective and innocuous, which consists of inserting a pair of bullet forceps into the cervix, thereby fixing it, drawing it somewhat downwards, and if necessary communicating to it some lateral movement. We have before published this method, but with only a brief description, in accordance with the plan of the work,* so that it appears often to have escaped attention. Nöggerath, in New York, has in his article of the year 1875, already cited, described the same method. Only he uses a special instrument for the purpose—a kind of forceps, having tenaculum hooks, which are introduced within the cervix.

There is no better method to ascertain in doubtful cases the size and position of the uterus and of its several segments, and its relation to neighbouring organs, especially its connexion and its mode of connexion to tumours. Those gentlemen who have visited our Klinik within the last few years, will long ago have become convinced of the exactitude of diagnosis which is possible under such circumstances.

The proceeding has no other contra-indications than the presence of any kind of recent inflammatory condition. In old chronic inflammations, with adhesions by which the mobility of the uterus is hindered, it is necessary to be cautious, and in fact simply to fix the uterus, and not make traction upon it.

After an exploration made in the ordinary way, the forceps

^{*} Hegar und Kaltenbach. "Operative Gynäkologie," 1874, p. 40.

(ordinary bullet forceps commonly suffice) are fixed upon one or the other lip of the cervix, or on both together, and secured by the catch. We then make gentle traction, in order to ascertain by trial how far we may go without producing too strong tension. Then one or two fingers are introduced into the rectum, while the other hand retains the handle. The finger in the rectum now endeavours to travel over the posterior surface of the uterus and its lateral borders. It is not necessary to pass it immediately over the upper margin of the fundus. If we can only approximate to it, then, without any further strong traction, which is scarcely ever necessary, we shall succeed in attaining that object by the following manipulation. We place the handle of the instrument in the hand of an assistant, who holds it steadily, without making any further traction, and place the hand thus set free upon the abdominal walls. While this hand presses the uterus somewhat further downwards and backwards, the examining finger can manipulate it in every part. We may even succeed sometimes, pressing the broad ligaments before the finger, in reaching somewhat round the lateral margins to the anterior surface of the organ. Moderate movements of the forceps to this side or that allow one margin or the other to be more clearly felt.

In the ordinary diseases, structural anomalies, or displacements of the uterus, this method secures great advantages, whenever any special difficulty arises in the exploration. But we gain the most remarkable results in the case of faults of development (rudimentary development, uterus bicornis, &c.), as well as in that of tumours of any description. If such are situated in the abdominal cavity, and it is a question of ascertaining their connexion with the uterus, moderate traction is often sufficient to put on the stretch some pedicle, band, or membranous connexion, which can then be distinctly felt from the rectum. If the tumour lies partially or entirely in the pelvis, while the uterus is more or less tightly pressed against it, or even closely connected with it, we make some traction upon the uterus and move it to one side or the other. The exploring finger is then generally enabled to define accurately one or the other border, and, taking this as a starting-point, to make out the remaining contour of the organ, isolate it from the tumour, and feel the connexions between them. We have repeatedly convinced ourselves that a slight alteration in the situation of the uterus was sufficient to present a totally different picture of the state of affairs to that which had been obtained by the ordinary examination. For example, a uterus may be isolated, which before had appeared to form an inseparable whole with the tumour.

Sometimes a tumour may be raised somewhat more into the abdomen by the hand pressed in immediately above the symphysis pubis or above one of the horizontal rami of the pubes; so that, even under such circumstances, the uterus may, to a certain extent, be grasped between the two hands. For example, it has not unfrequently proved possible to do this in cases in which the uterus was displaced backwards and to one side by an ovarian tumour. Pressure upward and to one side upon the tumour, combined with traction upon the uterus downward and to the other side, have effected the isolation, and even allowed the origin and condition of the pedicle to be recognised. When the tumour presses upon the uterus from behind, and at the same time allows no space between itself and the pelvic wall for the finger to pass forwards, and when the attempt to lift up the tumour into the abdomen is unsuccessful, the rectal exploration fails to attain its object. In this case the examination must be made by the vagina, while the external hand endeavours to command the fundus of the uterus. In this case also the use of the forceps is often necessary, in order to render possible a complete exploration of the uterus by means of movements and changes of position in the mode already described. doubtful cases it will here be necessary to make use of the bladder for exploration.

In forming a decision as to the practicability of hysterotomy, a very weighty question arises. Is the cervix long or short, thick or slender, already involved in the tumour or not, movable or fixed? Since the introduction of this operation, we have put to ourselves these questions in all cases of fibromata, even when the idea of extirpation did not come under consideration; and we have seen many tumours in which a

decision was impossible without the process of drawing down the uterus. Tumours in the lower segment of the body of the uterus often extend along and overlap the cervix, pushing back the peritoneum, to quite a deep level. The finger cannot be introduced or pushed in between these portions of tumour and the cervix, or only to a very imperfect extent. As soon, however, as traction has been made upon the cervix with the forceps, we can easily succeed in passing the finger between, and even in grasping the cervix between the fingers, whether we choose the combination of abdominal walls with vagina, or abdominal walls with rectum. The hand which is pushed in above the pubes must at the same time endeavour to push the tumour somewhat upward.

ON PROLAPSUS UTERI, AND ITS CAUSAL RELATION TO HYPERTROPHIC ELONGATION OF THE CERVIX.*

By A. L. GALABIN, M.A., M.D., F.R.C.P.

Assistant Obstetric Physician and Joint Lecturer on Obstetrics to Guy's Hospital.

SINCE the writings of Cruveilhier and Huguier, who have been followed mainly by French, but to a great extent also by British authors, as by Dr. Barnes, a distinction has commonly been made between true prolapse, and apparent prolapse, really due to hypertrophic elongation of the supravaginal cervix, the fundus uteri remaining all the while at its true level. It has even been supposed that true prolapse is comparatively a very rare occurrence. Thus Huguier himself found only two cases of true prolapse in sixty reported cases where the cervix was protruded externally; and Routh, in a large experience, met with only three; while Dr. Guérin, in a recent paper, supports in the main, although not to the full extent, the view of Huguier as to the pathological condition commonly existing, and regards extension of the cervix from hypertrophic elongation of its supra-vaginal portion as being much commoner than true prolapse.

^{*} Read at the Hunterian Society.

As to the supposed causation of this condition, the account given by authors is often indefinite and insufficient, and the clearest of them is perhaps that of Dr. Barnes. He considers that the first step is a state of congestive hyperæmia and subacute inflammation of the cervix, which takes its departure from labour. From this arises a slowly progressive or acquired hypertrophy, which may require many months or even years to attain its full extent. Moreover, he considers that when prolapsus or procidentia occurs either as a complication of elongation of the cervix or independently, the following is the order of events: "I. A central portion, the uterus itself, dropping down into the roof of the vagina is invaginated. 2. There are two folds or reflexions of the vagina, one of which, representing the part in which the uterus is inserted, is carried down inverted by the uterus; the other is the part of the vagina which retains its normal position, and receives the inverted portion containing the uterus. So long as this stage of depression, of partial inversion of the vagina by the squatting of the uterus, continues, there is prolapsus. 3. Procidentia exists when the body of the uterus, continuing its invagination, has passed quite through the vulva. When this has taken place there are only two duplicatures—viz., the uterus which has passed into the now nearly completely-inverted vagina. As Cruveilhier, however, has observed, some vestige of the second duplicature formed by the vagina is constantly met with in the furrow of greater or less depth, situated behind the procident mass; for though the inversion of the anterior wall of the vagina may be complete, that of the posterior wall is scarcely ever so." He further states that the vagina is a passive and not an active agent in the production of prolapsus; that normally it is of great efficacy in sustaining the uterus, and that it yields and permits prolapse when its contractility and power of resistance are weakened.

The question whether elongation of the cervix frequently causes extrusion of the os uteri, simulating prolapse, while the fundus remains at its normal level, may, I believe, be answered by observations in simple measurement. Taking the normal position of the fundus to be at the level of the pelvic brim, and at about its centre, it will be found, if an antero-posterior section of the pelvis, drawn on the scale of nature, be taken, and the os uteri be supposed extruded to a distance of only one inch outside the vulva, that the line drawn from this point to the position of the fundus along the pelvic curve will measure as much as five and a half inches. Now the procident and swollen cervix uteri, when once it has passed through the vulva, can scarcely ever protrude less than one inch, and the procident mass often hangs down several inches. If therefore the fundus remains at its normal level, the length of the uterine cavity in such cases should be never less than five and a half inches, and should vary from this up to at least seven and a half inches.

From observations made by measuring the uterus with the sound before returning it in cases of extrusion of the cervix outside the vulva, I have found that the uterine cavity is almost invariably lengthened, but that the usual length is about four and a half inches, and that five and a half inches is about a maximum, and is very rarely exceeded. Dr. Barnes himself states that, when the condition of hypertrophic elongation has reached its extreme limit, the cervix and uterus almost invariably measured exactly five inches, that is, just double the normal length, and that he has only known two or three cases in which this dimension was much exceeded. This would very nearly agree with a length of four and a half inches for the uterine cavity. Hence almost invariably the fundus must be more or less below its normal level. Almost the only exception to the lengthening of the uterus is the case in which the whole uterus is extruded outside the vulva. The cavity is then usually of normal length. or even somewhat shortened; the uterus is in a position of retroflexion, and the os uteri is often reduced to a minute orifice. Even while the body of the uterus remains within the vulva, and is considerably elongated, the sound often shows retroflexion to exist. The occurrence of this is easily explained, when a certain degree of prolapse has occurred. As the uterus descends, its axis tends to follow the curved line of the pelvic axis, just as the fœtal head does as it descends in parturition, and thus it becomes retroverted.

When this is the case, a larger amount of intestinal coils lie in front of the uterine body than behind it, just the reverse of the normal condition. Thus the intra-abdominal pressure comes to act chiefly upon the front of the fundus, presses it down, and converts the retroversion into retroflexion, this being indeed the mode in which retroflexion commonly arises. If the fundus remained at its normal level, the uterus must of course be anteflexed, in accordance with the pelvic curve, for the cervix to become extruded.

I would therefore strongly assert, as the result of my own experience, that elongation of the supra-vaginal cervix does not, except in very rare cases, simulate a prolapse not really existing, but is rather a complication of prolapse which almost always accompanies it so long as the body of the uterus remains within the vulva, and is only absent when the whole uterus has long been accustomed to be outside the body.

So far there is no proof that the cervical hypertrophy might not be primary, and the degree of descent which accompanies it is a sequel to the extra weight thus added to the uterus. There are two characters, however, almost always present in these cases, which appear to afford very strong evidence against such a conclusion. The first is, that the elongated cervix is never increased in diameter in proportion to its increase in length, and in a large proportion of cases is actually thinned, such thinning being very marked when the cervix is extruded through the vulva, but less so if it still remains internal. The second is, that the vaginal por-• tion of the cervix is, in cases of this kind, hardly ever increased in length, but almost always on the other hand apparently, if not actually, diminished. The thinning of the cervix has been noticed by most authors, and has been regarded by Dr. Barnes as a late consecutive result, and partly the effect of senile atrophy. I have not, however, found it to be less marked in women who have not yet reached the climacteric period. I should regard this thinning as a conclusive proof of the effect of tension. For it seems clear that progressive hypertrophy, the result of congestive hyperæmia and subacute inflammation, would increase the diameter of

the cervix as much as its length, as we find to be the case when it exists without real or apparent prolapse. Moreover, it would scarcely be confined to the supra-vaginal cervix, but would rather be likely to affect the vaginal portion most as being more exposed to injury and irritation.

There are two ways in which tension may be brought to bear upon the cervix. The first is the effect of vaginal traction. These cases usually commence with subinvolution of the vagina after delivery, associated with more or less complete destruction of the perineal body, whereby the action of the vagina, as a cylindrical muscular column, in supporting both itself and the uterus and bladder, is lost. The anterior vaginal wall, with the base of the bladder, is then the first to descend, just as we see to be the case when procidentia is reproduced by a straining effort after the uterus has been restored. A traction force is thus applied to the uterus at the point of the vaginal attachment, and, its central portion being held back by the ligaments which are fixed there, the intervening portion, or supra-vaginal cervix, becomes elongated. The ligaments also yield in some measure, and a descent of the whole organ thereby occurs. The firmer the uterine ligaments, the more does elongation preponderate over true prolapse. Doubtless, in most cases, the prolapse is also favoured by increased weight of the cervix or whole uterus, due to subinvolution or congestive hypertrophy. This effect of primary vaginal prolapse has been noted by Morgagni, Cruveilhier, Spiegelberg, Matthews Duncan, Thomas, and others. Dr. Barnes points out the result of traction in some cases, as from the presence of fibroids, or in extra-uterine fætation, but, as already noted, he denies the vagina to be an active factor in the production of prolapsus.

There is also a second mode in which I believe that a much more powerful effect of tension may be produced. When the heavy and œdematous cervix has nearly reached the vulva, it is liable to be suddenly extruded by any violent effort, as in defecation, or in the muscular exertions often made in the standing position by women of the class most liable to this complaint. It is then frequently gripped by the vulval orifice, and its return prevented. The uterine

ligaments, stretched for the moment, then tend to pull the organ back again. The resilient or elastic force, thus called into play, may approach indefinitely near in magnitude to the primary expulsive effort which called it out, and is therefore likely greatly to exceed in efficacy the mere weight of the vaginal wall, when primarily prolapsed. This agrees with the fact observed that the great elongation with attenuation of the cervix is only met with in those cases in which the os uteri is generally, or frequently, external to the body. The part of the uterus upon which the elongating tension is brought to bear by this mechanism will be nearly the same as that affected by primary vaginal prolapse. If, however, the procidentia has proceeded so far that not only the vaginal, but a part of the supra-vaginal, cervix has passed through the vulva, the chief tension will no longer affect the whole supra-vaginal portion, but only its superior segment, from the point of constriction by the vulva to that of the attachment of the chief uterine ligaments.

The question whether the elongation of the cervix is primary or secondary has a very important bearing upon treatment. If it be primary, no cure can logically be hoped for except by excising the whole or a portion of it, as was recommended by Huguier, although, from the formidable character of this operation, it has seldom been thought justifiable in Britain to perform it for the cure of a condition which does not threaten life. If the elongation be secondary to tension, then if mechanical means can be found to keep the cervix within the vulva, and especially to support the anterior vaginal wall, while at the same time any congestion or inflammation present is combated by suitable means, it may be expected that the uterus will eventually in this way be restored to its normal size.

A case of procidentia uteri has been recently recorded by Dr. Matthews Duncan, in which, three years after the first descent, the procident mass was of the size of a large turkey's egg, the os gaped widely, and the sound passed five and a half inches, the fundus being in the hollow of the sacrum. A plastic operation was performed, but without permanent benefit. Eleven years later, and fourteen years

after the first descent, the condition was widely different. The whole uterus was external to the body, in a retroflexed position, and its cavity measured only two and a quarter inches. The os tincæ was a minute opening. Menstruation was too frequent and profuse, but without pain, the patient being then forty-one years old. I think that this case illustrates in a very admirable way how changes in the size and shape of the uterus are secondary to the mechanical conditions to which it is subjected in the different stages of prolapse.

I do not propose now to touch upon those cases in which hypertrophy exists, not in the supra-vaginal, but in the vaginal cervix. They are very much less common than the other variety, but are found comparatively often in single women. Here the abnormal size of the cervix is the primary, and probably often a congenital, fault, and the only satisfactory remedy is amputation. This may be performed by the galvanic or simple écraseur, or by the knife or scissors. In the latter case it is better to stitch down the mucous membrane over the stump, after the method of Marion Sims, or that of Hégar, and so by pressure arrest the hæmorrhage, and avoid the necessity of protracted suppuration and cicatrisation. In a previous communication to the Society, I described the use of Esmarch's elastic constrictor in this operation.

Out of innumerable pessaries which have been used for mechanical treatment, I will touch only upon two or three which I have found specially useful. Most authors have pointed out the advantage, in the milder forms of prolapse, of Hodge's pessary, or one similar in principle. It will be scarcely necessary to recall the fact that, in the mechanism of Hodge's pessary there is a double action of leverage. By the pressure of the upper limb of the instrument the posterior vaginal cul-de-sac is stretched backwards and upwards, and by traction through its vaginal attachment the cervix is drawn in the same direction. The uterus then, provided it has sufficient rigidity, turns upon its central point, which is fixed as a fulcrum by the ligaments, and by the drawing of the cervix backward the fundus is tilted forward. The power here is applied to the cervix, the uterus itself is the

lever, its central point the fulcrum, and the fundus the weight or resistance to be moved. This action tends to remedy any existing retroversion, but does not remove a retroflexion, though it may put the uterus into a more favourable position for it to be remedied by natural forces.

The second leverage is that in which the pessary is the lever. The fulcrum is at its centre, fixed by the grasp of the vagina, or the resistance of the posterior vaginal wall; the power is applied to its anterior limb through the anterior vaginal wall, especially during expulsive efforts, and the posterior limb directly pushes up the weight, or fundus uteri. This action tends to remedy retroflexion as well as retroversion, and is especially useful when the uterus is pliant and not rigid, so that the former kind of leverage fails.

Thus the Hodge's pessary counteracts the commencement of prolapse by preventing any inversion or duplication of the vagina, and by holding the uterus in a position somewhat of anteversion at right angles to the vagina, so that any considerable descent is impossible. It may also, if well fitted, be made to do much service, by upward pressure of its anterior limb, in preventing the primary bulging of the anterior vaginal wall, and consequent traction upon the cervix. When, however, the perineal body has been damaged in parturition, and the vulval outlet thereby made capacious, a pessary with the ordinary sigmoid curve cannot usually be retained.

In many such cases I have found great advantage from a shape of pessary which I have not found anywhere recommended for such cases—namely, one in which there is no secondary downward curve in front, but the anterior limb is turned upward, and the whole instrument seen from the side forms nearly the arc of a circle, about 100° in length. In such case, the escape of the instrument is prevented simply by the resistance of the pubes and posterior vaginal wall, without any assistance from the perineum or vulval aperture. One of the great advantages of this instrument is that it has a powerful effect in restoring the retroflexion and retroversion so commonly associated with prolapse, a point in which most of the other pessaries applicable to severe cases of procidentia entirely fail.

It might be supposed that the pressure of the anterior limb of the instrument on the base of the bladder or urethra could not be tolerated; but if the pessary is made thick enough, and the vagina is much relaxed, so that the pessary rests high up, it is often borne without any inconvenience. Sometimes, however, it cannot be tolerated, especially when the vagina while greatly widened is at the same time shortened by partial contraction or atrophy of its walls, so that its length is scarcely, if at all, greater than its width. In this case also the pessary is apt to turn round with its long diameter sideways, and may then slip out.

In this case a successful substitute may often be found in an instrument which has already found much favour, namely, the elastic rubber-covered ring pessary, with an interior of spiral spring.

The rubber tube forming it should not be less than half an inch in diameter, and it then very rarely exercises injurious pressure. As a rule, I have found that elastic pressure in a pessary is much worse tolerated than that of a rigid body, unless the surface is excessively broad, like that of a spherical air-ball pessary. Like the pressure of an elastic ligature it appears to cause ulceration, while to a rigid body the soft parts yield once for all, and afterwards undergo less pressure. This instrument, however, usually preserves its circular shape while at rest, and its elasticity comes only into play during its introduction, or in any sudden strain or movement.

As compared with the U-shaped lever pessary last mentioned, its disadvantage is that it has little effect upon retroflexion, though it tends to restore retroversion. In point of material also all india-rubber pessaries are far inferior to vulcanite, as being somewhat absorbent, and therefore less cleanly, and liable to set up irritation and inflammation.

The advantage is that, owing to its elasticity, a wider instrument can be introduced—a circumstance which facilitates its retention, though this is far from being so secure as in the case of the U-shaped lever pessary. The drawback is that the vagina is more stretched. The instrument, however, often succeeds well in the case of a very wide and short vagina.

Another advantage in it is that intelligent patients may be taught to introduce and withdraw it themselves, and thus, when it can be cleaned daily, the disadvantage of india-rubber in respect of cleanliness is, in great measure, obviated. On account of the flatness of the instrument, it readily passes in the right direction—that is, posterior to the cervix—while a Hodge's pessary, of any form, will always go wrong unless introduced by a skilled hand.

In those cases in which none of the forms of instrument which I have mentioned will avail, the choice will generally be between a plastic operation and either one of the instruments having an external support, or Zwancke's pessary. I believe that, in most such cases, when the perineum is deficient, and the patient not too old, an operation is to be recommended, but there will always be many instances in which palliative treatment will be preferred. Although the imperfections of Zwancke's pessary are justly denounced by most writers on gynæcology, and the danger attending its use, unless under stringent precaution, is well known, yet many patients who have tried it derive therefrom so much relative comfort as not to be easily persuaded to renounce it or exchange it for any other form of instrument. It is obvious, however, that the benefit to be obtained from it can, be only relative and partial, since it does not attempt to restore the uterus to its normal level, nor to combat the retroversion or retroflexion which almost necessarily accompanies prolapse.

Of instruments resting upon external support, I believe that the most satisfactory is the ordinary cup and stem pessary, provided that it is made of vulcanite and that means are taken to avoid the chafing of the labia and thighs produced by the straps of the pessaries commonly sold. For the latter end there are two requisites—first, that the straps should be made of india-rubber tubing, and not of the usual webbing, which it is impossible to keep clean; and, secondly, that they should be so adjusted as not to cross the labia, but lie at each side in the groove between labia and thighs. A convenient arrangement for this purpose is to fix the lower end of the stem in the centre of a square sheet

of india-rubber of suitable width, from the four corners of which the bands of tubing extend forward and backward.

It is true that it is pronounced by the high authority of Dr. Gaillard Thomas that no pessary so universally answers the indications of supplementing the actions of the uterosacral ligaments and sustaining the prolapsed vagina, rectum, and bladder as Cutter's pessary, having a cup at its upper extremity to receive the cervix and a stem which curves backward over the perineum, and is supported by a single band placed posteriorly. Dr. Thomas also declares the mode of support of the cup and stem pessary to be the most objectionable of the three possible ways of furnishing an attachment externally, on account of the want of some point of support against which to fix the distal extremity of the stem and prevent motion in it. After this high eulogium of Cutter's pessary, I confess to have met with much disappointment in its results. It has appeared to me that the single point of traction on the lower end of the instrument tended, by its necessary leverage, to tilt its upper extremity too much forward, and also that the end of the recurved stem and the single band lying upon the coccyx caused more chafing than the two bands one at each side, while the desideratum of immobility was far better secured by the stem with four bands, arranged as above described.

The scope of this paper will not allow me to discuss the various forms of plastic operation which have been devised. The simplest of these is perineorrhaphy, that is, the restoration or extension of the perineal body. Then come operations on the posterior vaginal wall, as performed by Baker Brown, or according to the methods of Simon or Hégar, who extended their incisions further up the vagina. Of these either of the two latter are adapted to secure the best results attainable by such means. Simon, who called his operation posterior colporraphy, freshened a pentagonal surface, operating through a broad fenestrated speculum, a modification of that of Sims'. The edges were brought together by alternate deep and superficial sutures, two superficial sutures being tied first and then the deep one lying between them. Hégar, calling the operation perineauxesis,

draws down the posterior vaginal wall externally, and, fixing it by a tenaculum, freshens a triangular surface. He uses only deep sutures of silver wire. Of operations on the anterior vaginal wall, the best known is the anterior colporraphy of Marion Sims, modifications of which have been proposed by Emmet, Aveling, Schroeder, and others. The clamp operation of colporraphy proposed by Thomas is applicable to either anterior or posterior vaginal wall, or to both in succession. In women of advanced years episeorraphy or cheilosyncleisis may be performed, uniting the labia majora for the greater part of their extent; or the more effective operation of colpokleisis, completely occluding the vagina at a higher level, as proposed by Buchanan, of Glasgow. It has also been suggested by Le Fort to unite a longitudinal strip of the anterior and posterior vaginal walls, thus making an artificially duplex vagina, and it is anticipated that this will not interfere with coitus or parturition.

In most of these operations the copious hæmorrhage from the vivified vaginal walls is a considerable difficulty. In many of them the aim is to narrow the vagina at its upper part. They may be most successful for the time, and the primary vaginal prolapse which may have been the commencing stage of uterine procidentia may be rendered impossible for the future. But the usual consequence is that, if the uterus remains enlarged, and its ligaments relaxed, it begins to drop down into the new vagina, producing inversion at its summit; and this process once begun, it goes on until the parts have yielded, and become as relaxed as before. The fact is thus illustrated that the vagina by itself is not a sufficient support for the uterus, at any rate when enlarged.

I therefore think it preferable not to aim at complete cure by means of the operation alone, but only to attain the object of so narrowing the vulval outlet and lower part of the vagina, that either a Hodge or elastic ring pessary of moderate size may readily be retained, if possible a Hodge's pessary of the ordinary sigmoid shape. This should be worn for at least many months, and generally for several years. After that time the uterus, being kept up at its

normal level, may have returned to its natural size, and its ligaments have recovered their tone.

In many cases it is sufficient to restore the damaged perineal body, taking care that its natural triangular shape be reproduced, and not merely a thin artificial perineum made. Simple interrupted sutures of either silver, wire, or silkworm gut are, I believe, far preferable to quilled sutures. Frequently it is desirable also to narrow the posterior vaginal wall for some distance in its lower portion. This may be done either after the method of Simon or that of Hégar. Sometimes I have used carbolised gut for the vaginal sutures, leaving them to dissolve away; but I have found them rather apt to yield before union is complete. I think it preferable to use silver or silkworm gut sutures, and secure them by Aveling's coil and shot. They may then be left several weeks if necessary, until the perineum is quite consolidated, and are afterwards removed with great ease, when the wire coil is cut through.

I will conclude with the history of a case which illustrates the use of a pessary after the restoration of the perineal body by operation, although it is not one of prolapse of the uterus itself at all:—

Maria S., aged forty, was admitted into Guy's Hospital under my care, on December 27, 1877. She had had three children, the last eighteen years ago. She said that for fifteen months she had had "falling of the womb," a large swelling coming down externally through the vulva. Ten months before she had retention of urine and was admitted into another large London hospital. She stated that the "tumour was tapped" there on two or three occasions, which was interpreted as meaning that the urine was withdrawn by catheter. No other operation was performed, and it did not appear that any pessary was found to be of avail. The difficulty in micturition continued after she left the hospital, and it was chiefly on this account that she sought admission into Guy's.

At her admission a tense globular swelling, having apparently very thin walls, and reaching to as much as from four to five inches in diameter, protruded through the vulva.

It was found to consist of the enormously distended and inverted posterior vaginal vault, the uterus being at its normal level. The rectum entered the prolapsed mass in some degree, but the latter was evidently filled mainly by small intestines, when fully distended. It was found that if any pessary, either with external support or otherwise, was applied the swelling still came down by the side of it. The retention of urine was evidently due to the pressure of the elastic swelling, though it would scarcely have been expected that so soft a mass would cause it.

An operation was accordingly performed on December 31st. A triangular piece of the posterior vaginal wall was vivified by scissors in its prolapsed condition, and united with carbolised gut sutures. The perineum was also united with interrupted silver sutures. As union appeared somewhat doubtful at the end of a week, the perineal sutures were not removed until the 12th January, when the perineum was found to have united well, but union had failed to a considerable extent in the vaginal portion brought together by carbolised gut. When the patient began to get up, the vaginal vault became again partially inverted, pressed upon the restored perineum, and again rendered her on many occasions unable to pass urine. Hodge's pessaries of several forms were then tried, but it was found that those not too large to pass through the restored vulva did not quite satisfactorily prevent some portion of the relaxed cul-de-sac slipping down at their side. Powdered tannin rolled up in cotton-wool was therefore repeatedly inserted, and the largest size of elastic ring pessary applied. This answered quite satisfactorily, keeping the posterior cul-de-sac high up beyond the reach of the finger, and the patient had no more difficulty in micturition.

Reports of Pospital Practice.

UNIVERSITY COLLEGE HOSPITAL.

TWINS WITH PLACENTA PRÆVIA.

Under the care of Dr. John Williams.
Reported by Mr. Miller, late Obstetric Assistant.

Mrs. G., aged twenty-nine: has had two children, the second nearly four years ago. A year ago she aborted at the third month; she did not keep her bed at all on that occasion. Patient last menstruated in December, 1876. At the end of April following she had a profuse flow of blood from the vagina; this occurred again several weeks later, the flow lasting each time a whole night. At frequent intervals she had a mucous discharge, with a little blood. She never applied for treatment.

The labour began about eight A.M. July 10th, 1877. The obstetric assistant was sent for at noon; he found the os uteri fully dilated, high up, occupied towards the right and anterior part by a fœtal head covered with the bag of membranes, and towards the left and posterior part by a large, soft, roughish mass, evidently part of a placenta; this mass was quite distinct from the bag over the presenting head. Two or three ounces of blood had been lost when the obstetric assistant arrived; the bleeding then ceased. The placental mass was forced down during a pain, so as nearly to cover the presenting head. The pains at this time were not strong, and came at long intervals. The bag of membranes over the presenting head was punctured and a firm binder put on. The head then descended into the pelvic cavity, together with the placenta, and during a pain the mass descended before the head and pushed it to the right side of the pelvis. In an interval the placental mass could be repressed far enough to be on a level with the presenting head, but could not be prevented from getting in the way of the head during a pain. Therefore Barnes's forceps were applied to the head and traction made only during the intervals, the placental mass being at

the same time pressed up by the forefinger. In this process there was very slight hæmorrhage, and two or three firm, completely decolorised blood-clots, each as large as a filbert, came away. The feetal head was small and it was soon extracted, and the rest of the child rapidly followed. It was a rather small seven-months' female child, but vigorous and cried well. When the umbilical cord was stretched not more than six inches of it were outside the vagina. The child was separated, and almost immediately after there was a sudden rush of liquor amnii, and on examination another feetal head was found presenting, with the placental mass beside it. In a few minutes the second child was born; it was a male child, as large as the first but decidedly less vigorous. It breathed regularly, but did not cry well, even after having had cold water dashed upon its face and chest. The cord of the first child was tied with a long string, that of the second with a short one, so as to determine to which child the prævial placenta belonged. After separating the second child a vaginal examination was made. The placenta belonging to the first child was entirely in the vagina, and was removed, after which its cord was observed to be quite long enough to reach up to the fundus, with a few inches to spare. This was the cord which, when drawn tight, held the first child's umbilicus within about six inches of the maternal vulva. On resuming the vaginal examination the other placenta was found higher up, and could not be expressed; it was in the situation of the originally-presenting placental mass. Though the greater part of it could be reached by the finger, the upper portion was still firmly adherent to the lower zone of the uterus and had to be stripped off, after which the lower two-fifths of the placenta were seen to be darker than the rest and covered on the uterine surface with a smooth, firm, adherent blood-clot. This placenta was known, by the short thread on its cord, to belong to the second child; the placenta which came away first being known, by the long thread on its cord, to belong to the first child. The children had the development of seven-months' fœtuses, but were rather small for that period. Mother and children, when left, were doing well.

Notices and Reviews of Books.

Transactions of the American Gynæcological Society. Vol. II. Boston, 1878. London: Trübner & Co. Pp. 697.

THE second volume of the Gynæcological Society's Transactions is a more bulky one than the first, and by the value and originality of the articles contained in it, fulfils the promise of that of the first year of the Society's existence.

In his annual address on the subject of Medical Gynæcology, the President, Dr. Fordyce Barker, takes his stand strongly as an opponent of the mechanical theory of uterine pathology. While laying a just stress on the value of appropriate constitutional treatment in uterine therapeutics, he appears to take as extreme a view, on the one side, as that which he denounces on the other, especially when he lays it down as a universal rule that mechanical treatment, such as the use of pessaries, or surgical, such as the division of the posterior lip backward, is neither safe nor useful, until all associated pathological conditions, due to antecedent or coincident inflammation, have been overcome. Probably few gynæcologists now remain, who, in the presence of marked retroflexion associated with a presumably secondary endometritis, would insist on waiting in every case until the endometritis had been cured, before remedying the retroflexion.

The subject of the physiology of menstruation, which of late has attracted so much interest, is illustrated by a report on the corpus luteum by Dr. John C. Dalton, already well known for his researches on this question. Coloured lithographic plates are given of the corpora lutea both of pregnancy and menstruation in seven cases. The result of the research on the whole is to support the ovular theory of menstruation, so far at least as that theory asserts that ovulation and menstruation are associated as a general rule, though that rule may be subject to important and not unfrequent exceptions and variations. None of the cases, however, bear decisively upon the question, what is the exact

epoch of the menstrual cycle at which the Graafian follicle commonly ruptures, and there is, unfortunately, no account of the microscopical appearance of the uterine mucous membrane in the several instances.

In sixteen cases the appearance of the corpus luteum was in correspondence with the ovular theory. Two cases, one and two days respectively after the end of the flow, showed recently ruptured follicles filled with clot. Five cases, at dates from nine to twenty days after the end of menstruation, showed well-developed corpora, the thickness of the convoluted walls agreeing with the time which had elapsed. Three more cases, at from six to eleven weeks after menstruation showed small retrograde or nearly obsolete corpora lutea. Finally, six cases, from patients in whom menstruation had been suspended for several months or years, showed no corpora lutea, and the Graafian follicles inactive or degenerated. There were two distinctly exceptional cases, one from a young unmarried girl who had menstruated regularly, where no sign of a corpus luteum was found, nor any certain indication that the rupture of any Graafian follicles had ever taken place, though the general appearance of the latter was such as might be presented in a healthy young girl, just approaching the commencement of the menstrual function. In the second case, that of a widow, twenty-two years old, who died from phthisis, an imperfect menstruation, lasting two days, had occurred five weeks before death, and only small and retrograde corpora lutea, three in number, were found. Two other cases indicated varieties from the normal condition, one the formation of a corpus luteum without the central clot, the second, hæmorrhagic effusions without corpus luteum, in the case of a woman forty-five years old, in whom menstruation had been absent, or nearly so, for one year. Thus of nineteen cases, seventeen appeared to show the coincidence of ovulation with menstruation, and only two the contrary, while there was no instance indicating ovulation without menstruation, though the occasional occurrence of this has been proved by other observers.

Nine cases are described of the corpus luteum of pregnancy, all of which presented the general well-known characters, but appear to have varied very considerably in size. Interesting evidence is afforded as to the usual cessation of ovulation during pregnancy, upon which some doubt has of late been thrown. It was found that the appearance of the ovaries during pregnancy was modified by the disappearance of the earlier corpora lutea, and the inactivity of the Graafian follicles. In pregnancy, after the earliest months, there was, as a rule, but one corpus luteum to be found, while in menstruating women it seldom happened that three or four were not found existing together, in different stages of growth or retrogression. So far as it goes, therefore, this evidence is decisively against the theory of Professor Mayrhofer, of Vienna, that the corpus luteum of pregnancy does not persist throughout, but is renewed every month.

A paper by Dr. Van de Warker, strongly advocating the use of intra-uterine stems in the treatment of flexions, led to a discussion from which it is apparent that opinions vary fully as widely in America as in Britain, not only as to the safety and value of such mechanical treatment, but as to the frequency and pathological importance, and even the existence, of flexions of the uterus. An opinion, however, is supported by the high authority of Dr. Peaslee and Dr. Gaillard Thomas, very similar to that of the best authorities in Britain-namely, that in retroflexion an intra-uterine stem is very rarely, if ever, required, and that even in anteflexion it should not be used in the milder forms, or unless a vaginal pessary fails to afford relief, while the danger attendant on such a mode of treatment should restrict its use to a very limited sphere. Dr. Goodell would assign to the instrument a somewhat wider field, and on more mature experience has greatly modified his former view as to its danger, though he confesses that he is more or less on tenterhooks, until the first week is passed, and always feels relieved whenever the stem has been removed for good. He relates a curious instance in which a patient became pregnant while wearing a Chambers's divaricating stem pessary, which was afterwards successfully removed, without interrupting the gestation.

An interesting case of vaginal ovariotomy is recorded by

Dr. Goodell. This is said to be the sixth on record, all the operations having been performed in America. An immovable cyst was situated in the pouch of Douglas, displacing the uterus upwards and forwards. It was first tapped by the aspirator, and a tumblerful and a half of straw-coloured fluid drawn off. Decomposition within the cyst, with septicæmic symptoms, afterwards took place. The cyst was finally removed through the vagina, two quarts of offensive pus being first drawn off. The adhesions were separated with difficulty, the cyst being drawn down by volsella forceps. As it was found to be closely attached to the uterus, the left broad ligament was transfixed and tied, the ligatures being brought out of the wound. Douglas's pouch was afterwards washed out with disinfectants, and the patient recovered, after being for some time in a critical state.

The value of electrolysis in the treatment of ovarian tumours is the subject of an able and exhaustive article by Dr. Mundé, who reviews the results of Semeleder, Fieber, Von Ehrenstein, and others. It is shown that the claim for superior safety first made for this mode of treatment is not justified by the recorded results; 9 deaths having occurred in 51 cases, or 17.6 per cent., a mortality greater than that in the recent practice of some of the most successful ovariotomists. The proportion of cures is also comparatively unfavourable, the percentage of success reported being 55 per cent., while there is some uncertainty as to the permanence of many of these supposed cures. Dr. Mundé has himself tried the method only in one case of unilocular cyst, in which the effect was entirely negative. Far more favourable results, in an enormously greater number of cases, are indeed claimed by Von Ehrenstein, the director of an electrical establishment at Dresden, but, in the absence of detailed accounts of the cases. Dr. Mundé maintains an apparently well-founded incredulity. The final conclusion arrived at will probably be generally accepted-namely, that the trial of electrolysis is only justifiable in the case of large unilocular or multilocular tumours, in which the presence of extensive adhesions, especially in the pelvis, renders ovariotomy impracticable, and perhaps also in that of small

monocysts in which the discomforts are so slight as to render the more serious radical operation as yet uncalled for, and in which it seems fair to give the patient a—in such tumours probably innocuous chance of a cure by milder means.

An article by Dr. Emmet, on absence and atresia of the vagina, is founded upon the records of nine cases—a comparatively large number of instances of operative treatment of this rare affection to be found in the practice of a single observer. In five out of the nine there was retention of menstrual fluid. There are several interesting and important points in the conduct of the operation in which the author's views are novel, or differ from those more commonly accepted. Thus it has been thought that some of the wellknown dangers attendant upon the evacuation of a large quantity of retained menstrual fluid, especially that of regurgitation through the Fallopian tubes, may be avoided by the plan of gradual evacuation by the aspirator or other means. Dr. Emmet, however, is strongly of opinion that the safest method, especially in reference to the avoidance of septicæmia, is at once to evacuate the fluid by a free opening, and wash out the uterus on the spot with warm water; and this opinion is supported by the favourable result of all his cases. It is to be observed, however, that in only one of them was the retained fluid considerable in amount, the quantity evacuated being twenty-four ounces, and that in this serious febrile symptoms followed for a time, the pulse rising to 140. The evidence, therefore, does not seem sufficient to prove that in cases of extreme distension, which are well known to be far the most dangerous, the method of gradual evacuation is not preferable.

As to the formation of an artificial vagina, several important suggestions are made, of which the first is to make the passage, after the first superficial incision, wholly by tearing, and not by cutting, as being less likely to be followed by contraction. The second is to make the passage at one sitting, and not by several stages, as several authorities have recommended or practised, since the author finds that if this be done a ring of contraction will be likely to remain at each point of fresh departure. The third is to introduce

immediately a glass dilator large enough to distend fully the passage, and avoid the use of any plugs of lint or similar material, as likely to lead to septic absorption. By this means hæmorrhage is arrested, and the artificial vagina heals up with a surface approximating to mucous membrane. Two patients were in this way qualified for happy married life, although no uterus could be detected. From the records of similar cases treated in Britain of late years, it seems rather that the tendency has been to the belief that in retention of menses, with complete congenital absence of the whole or the major part of the vagina, the best attainable object is to establish a permanent opening per rectum. think that Dr. Emmet's cases will encourage gynæcologists to aim in future at a more perfect result, when a uterus exists, and even in the absence of that organ, to offer more hope of remedy, at least in the case of women already married.

Among the other more important articles in the volume are papers by Dr. Byrne on amputation of the cervix uteri; by Dr. Skene on the performance of obstetric operations with the aid of the speculum; and one by Dr. Battey upon the operation called by his name, with an interesting discussion upon the field for its legitimate use.

Ibstructs of Societies' Proceedings.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OBSTETRIC MEDICINE,

At the Annual Meeting of the British Medical Association, in Bath, August, 1878.

By Alfred H. McClintock, M.D., F.R.C.S.I., LL.D. President of the Section.

Death-rates in Childbed.

My first impulse and duty on taking this chair is to express a deep sense of the honour conferred upon me by the request that I should preside over the Obstetric Section of the Association on the present occasion; and I gladly seize this opportunity of thanking our President, Dr. Falconer, and the Committee of Council, for their selecting me for this office.

The compliment thus paid is greatly enhanced by the consideration that, among those who in past years filled this position, we find the honoured names of Locock, Farre, Duncan, Barnes, Beatty, Evory Kennedy, and Priestley—all men of eminent ability who have earned enduring reputation by their varied and valuable contributions to this

department of the healing art.

The entire number of these past presidents is comparatively small, and the reason for this is worth mentioning, as it marks an epoch in the history of this great Association. Up to the year 1867, the work done at the annual meeting was not subdivided into sections as it now is; in that year, however, the thirty-fifth annual meeting took place—Dublin being the city where it was held—when a more profitable and systematic arrangement of the papers and discussions was effected, by classifying them under the appropriate heads of Medicine, Physiology, Surgery, and Midwifery—each section having its own President, Vice-Presidents, and Secretary.

This division of labour, as might be expected, was found to work most satisfactorily, and, as you all know, is now carried out to the fullest extent, and with the greatest advantage. In fact, without a strict regard to this arrangement of subjects, such is the magnitude of the Association, that there would be nothing but confusion and dis-

order at our meetings.

Of late years, the number of communications in the list of this Section has been so great that, even with the utmost economy of time, they could not all be read. This was notably the case last year at Manchester; and, when the session closed, a resolution was passed, voting that "they all be considered as having been read." In consequence of this pressure on the time of the Section, I shall not in these remarks exceed the limits permitted to an ordinary communication.

A question of very great interest and importance was started some years ago, and has been the subject of special investigation by Le Fort, Evory Kennedy, Matthews Duncan, myself, and others. This question is "What should be regarded as the average mortality among women dying in parturition and the four weeks immediately succeeding?" In other words, what is the death-rate among women in childbed?

A variety of causes concur to keep up error and misconception on this point, most of which have been pointed out by Matthews Duncan and myself. But the worst of it is, the false standards which have been put forward, especially by Le Fort and Kennedy, are calculated to deter most men from publishing the actual results of their experience, and to disparage very materially the practice of lying-in hospitals by making the death-rate therein appear so inordinately high. For example, Le Fort takes I in 212 as the rate of mortality among women attended at home by maternity charities, and forth-

with assumes this to be the true standard of comparison. Dr. Kennedy took the mean mortality in three very small provincial lying-in hospitals—this mean being r death in 282 cases; and this is the standard he erects wherewith to test the practice of all such institutions. Is it any wonder if the application of such a standard should exhibit a death-rate of appalling magnitude?

So far back as May, 1869, I ventured to lay down as the deduction from a large collection of cases treated in private practice by several men of character and eminence—that I death in childbed out of 125 patients was about the true average; and this, mind you, among patients in comfortable circumstances treated at their own homes by

competent and highly skilled accoucheurs.

Matthews Duncan has investigated the question before us with that rigorous logic and careful discrimination of data which strongly characterise all his writings; and the following is the conclusion at which he arrived as the best approximation to the truth that he could make—viz., that "not fewer than I in every 120 women delivered at or near the full time die within the four weeks of childbed."

In the nine years which have elapsed since the publication of my paper on this subject, I have collected some more data, the result of which tends not only to confirm my former statement, but to show that the actual rate of mortality is even higher than the one I then laid down, that I in 100 would, perhaps, more correctly represent

the lethality among women in childbed.

Le Fort says that the published statistics of the private practice of several English accoucheurs show a rate of mortality not exceeding 2 or 3 in 1000; and Simpson has stated that the mortality of childbed is now 1 in 150 or 200. But these are mere empty assertions, and destitute of any real value. Before the stern logic of facts they utterly break down. I do not mean to weary you, gentlemen, with statistics, so I shall just briefly mention the sources of my additional data.

Dr. Campbell, out of 1500 private patients attended by him in

Paris, lost 13.

Simpson, in the only two years—and we suppose they were not the worst years—that he reported the results of his private practice, lost *four* patients out of 180.

Matthews Duncan, in the years of his practice of which he pre-

served records, had 8 deaths in 736 cases.

Out of 1000 consecutive patients in my own private obstetric practice, including forty cases of abortions, I find from my register that 12 died within the month—viz., 2 of scarlatina, 1 of pertussis, 2 of hæmorrhage, 1 of convulsions, and 6 of metria.

Uvedale West—a most accurate observer and faithful reporter—has published the results of 3100 midwifery cases in his own private

practice; and the deaths among these were 23 in number.

Dr. Thomas Hamilton's midwifery practice in a country district of Scotland gives the following result—viz., 7 deaths out of 402 cases.

Dr. Charles Egan reports 400 midwifery cases among Europeans in British Kaffraria, and among them were eight maternal deaths.

Dr. W. T. Greene has published an analysis of his private practice among the lower-middle and labouring classes of a London suburb; and the total number attended during a period of eight years, ending in 1877, was 1500, of whom 12 died.

Lastly, Dr. George Jones has reported 2000 consecutive midwifery

cases, with a total of 16 deaths.

Now, when we sum up all these figures, what is the result? Simply this, that nine accoucheurs have reported 10,818 midwifery cases occurring in private practice; and that out of this number 103 women died, being a death-rate of 1 in 105 as nearly as possible. We may be perfectly certain that the above returns do not in any way exaggerate the number of deaths; nay, I feel sure that, if anything, they underrate their proportion. The omission of a death might easily occur, but the addition of one seems the next thing to an impossibility.

In contrast to the above figures, it may be urged that there have been published records of midwifery practice with only one death in every 300, 400, or even 500 cases. A splendid result, I freely admit; but so very exceptional that in my judgment its correctness should be rigidly tested before it be accepted as absolute fact; and the first question I would ask is this, "Has the result of every individual case been noted down in the register at the end of the puerperal month?" Where the facts and items are not so recorded, the data are wholly unreliable; and this specially holds good where the compiler or reporter was not himself the observer of the cases.

The omission of a death in private obstetric records may happen in different ways. A common one is this. Dr. A. delivers a patient, and another practitioner, Dr. B., takes up the attendance sooner or later after delivery. Eventually, this patient happens to die. The death does not appear in Dr. A.'s register, as she did not die in his hands; and the case is not entered in Dr. B.'s register, for he did not deliver her; and so it comes to pass that the death is unrecorded. True it is, both Dr. A. and Dr. B. are in one sense correct, and we

cannot blame them; yet their statistics yield a false result.

In the public registration of deaths, it is certain that, in all the cases of women dying in childbed of some apparently non-puerperal disease, this disease alone is entered as the cause of death. Now, I have elsewhere demonstrated that over one-fourth of all the women dying in childbed perish from some disease not essentially or properly puerperal in its nature. Hence it follows that we must increase the number of registered deaths of childbed by one-third, in order to ascertain how many deaths actually took place in childbed. Let me allustrate this:—11,722 women were registered as dying of childbed in England in the years 1838 to 1841 inclusive, the rate of mortality being I death to every 168 women confined. But, on the principle just laid down, the number of deaths occurring in childbed within this same period should have been 15,629, which would make the

death-rate 1 in 126, instead of 1 in 168—a very material difference,

you perceive.

I am satisfied a great deal of discrepancy has arisen in the returns, public and private, of obstetric practice, from the distinction of deaths in childbed and of childbed not being attended to. Accuracy on this head should be carefully observed in order to make just comparisons. Whilst on this subject, let me mention two other sources of fallacy in obstetric mortality reports. One of these is abortion. By some reporters abortions are included in the general total, and by others they are not. But it should always be specified whether cases of abortion are comprehended in the report, and what their number is.

Again, consultation cases should be kept distinct and apart in all reports of private practice where the death-rate is shown. To include them without giving the result of the case, would obviously be unfair; whilst to give the result would augment the death-rate to the prejudice—but most unjustly so—of the practitioner; for, the higher a man's reputation stands, the greater will be the proportion of difficult and dangerous cases falling to him; and the same precisely holds good of hospital experience, so that, paradoxical though it may appear, it is yet quite true to assert with Dr. Bristowe and Mr. Holmes, "that a high death-rate indicates, as a rule, that a hospital fulfils efficiently the purposes for which it was designed; and that a low death-rate, on the other hand, indicates (cateris paribus) comparative inefficiency."

I lately received from Professor Lusk, of New York, a most interesting and elaborate paper, On the Nature, Origin, and Prevention of Puerperal Fever. It contains one very striking fact which tends to support the estimate I have put forward as the true death-rate of

women in childbed. This fact I now mention.

A careful analysis made by Dr. Lusk of the vital statistics of New York for the nine years ending 1875, shows that the total number of deaths to the total number of confinements would be, at least, in the proportion of 1 to 85, and the deaths from puerperal fever alone, in

the proportion of 1 to 146.

Most of the data used by me in this paper take in women of the upper or middle classes, and residing in cities. Now, the deteriorating influence of civilisation on the physical development and animal functions of females is undoubtedly greater in such women than in those of inferior rank and among a rural population; and, if so, the injurious effects of childbearing should be more apparent among the former. This, I say, would be a not unreasonable inference, and has, I think, some support from statistics. However, it is one of those questions which yet remain to be worked out when the requisite amount of data have been accumulated.

Let me now, gentlemen, bring these cursory remarks to a conclusion. I really feel that some apology is due for having occupied any portion of your time with so dry a subject, when many papers of

great interest and practical importance await your hearing.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, April 17th, 1878.

Dr. G. W. Balfour, and afterwards Dr. Argyll Robinson, Vice-President, in the Chair.

On the Essential Pathology of Puerperal Eclampsia.

By Dr. Angus Macdonald.

Very few subjects can be imagined more capable of arresting the attention and commanding the interest of the obstetrician than that of puerperal eclampsia. The suddenness of its usual onset, the terribleness of its phenomena, and the extreme risks it brings with it to mother and child—all combine to make its appearance an occasion of the greatest concern and anxiety to the patient's friends, but

especially to her accoucheur.

But not only is the obstetric physician bound to concern himself deeply with this lesion,—it occupies a position in the boundary land between the pure and the obstetric physician; or, what might with greater propriety be said, between subjects that fall usually under the observation of the physician who restricts his attention to the domain of pure medicine, and that of the physician who practises obstetrics. For I claim for the practitioners that devote their practical attention more particularly to the domain of the reproductive organs of the human female, both the necessity and the right of being regarded as in the first place physicians, and in the second place only obstetricians.

It is only in this way that the gynæcologist can be saved from the

cramping influence of specialism.

It appears to me that much evil has arisen already to the department of gynæcology from too much separation of it from pure medicine. If the earlier obstetricians had encouraged a greater breadth in the views they have taken of the relations of the reproductive organs, when functioning healthily and unhealthily, to the economy as a whole, we should have been saved from not a few of those rash generalisations and crude views that have disfigured and still retard the advance of gynæcology.

Still, with all our faults, we have reason to be proud of the advancement of our department within the last quarter of a century.

But to return to the subject.

Though eclampsia occurs in the pregnant and parturient female, it is even more common entirely apart from these conditions, and as a symptom of severe renal disease. It follows, therefore, that the obstetric and the pure physician meet the condition each on his own ground, and that, as both are concerned in its management, both are equally interested in everything that tends to the elucida-

tion of its real nature. For it must be admitted, although with great regret, that its pathology is in a very unsatisfactory position at the present time.

In a former paper published upon this subject, and embracing the records of nine cases, I ventured to suggest that more attention ought to be paid to the condition of the brain in eclampsia than is usually given. The more I have since seen of the lesion the more I have been impressed with the correctness of this idea, and I have consequently been on the outlook for opportunities to put my ideas into

practical shape.

For many causes, an opportunity to examine the brain of a puerperal patient dying of eclampsia is not an occurrence of every day, and it consequently requires time to collect the necessary material. Since then I have been able to obtain on only two occasions dissections of the brains of women who have died from puerperal convulsions. The post-mortems in both these cases were performed for me by Mr. D. J. Hamilton, Pathologist to the Royal Infirmary. He has, moreover, subjected the brain and kidneys of the former of the two cases to a most scrupulously exhaustive, microscopical analysis, of which he has furnished me with a valuable report illustrated by

the two drawings I show you.

The first case is a most typical one, and I hope to show, as I get further on in my paper, that it is full of valuable information in respect to the condition of both the brain and the kidneys in eclampsia. The latter case is not so well marked, because it was complicated by severe post-partum hæmorrhage, to which, apparently, the fatal result was mainly attributable. Still, while the evidence of the occurrence of the eclampsia is borne out by the account of this case, as given by a most intelligent and trustworthy nurse, the post-mortem appearances in the kidney were such as we might expect would give rise to eclampsia; and the evidences of brain-changes, so far as they were observable, completely accorded with the conditions we met with in an exquisitely pronounced degree in our former case.

Some years ago I met with and recorded a case of convulsions arising not during delivery, but within the lying-in period, and which, from the character of the attacks, I recorded as puerperal tetanus. As the brain-changes found therein were very peculiar, I mean also to include the chief facts we observed in it as part of the material of

this paper.

I am the more inclined to do so, inasmuch as I must, in the course of my remarks, embrace some notice of the recent able papers on the subject of so-called uraemic convulsions by Dr. Mahomed,* in which he endeavours to prove that small cerebral apoplexies are one cause, at least, of eclampsia. With these introductory remarks, I proceed to read an account of the two cases.

^{* &}quot;On the Pathology of Uræmia and the so-called Uræmic Convulsions," British Medical Journal, 7th and 14th July, 1878, pp. 11 and 42.

Case I.—Severe Puerperal Eclampsia and Albuminuria—Accouchment forcé—Deuth—Post-mortem—Intense Anæmia of the Collective Cerebral Centres—Engorgement of the Meninges—Apoplectic Extravasation in the right Nucleus lenticularis.

C. M., aged eighteen, residing at Leith Walk, Edinburgh, primipara, said to be in the eighth month of pregnancy, enjoyed good health till 20th July, 1877. She is a well-nourished girl, of rather over average height. Face rather pale. On that and following day her attendants noticed that her eyes were somewhat swollen, and she was heard to complain of a little headache. She was, however, greatly depressed about her approaching confinement, and ashamed of her condition, as she was unmarried. She seemed also, from what information could be gathered respecting her, to have been of a nervous disposition. Mr. Hanson, one of my dispensary pupils, was engaged to attend her in her confinement. On the morning of the 22nd July, about 10 A.M., the patient vomited and continued to do so severely for some time. At 12 noon, while she appeared to be laughing, she was observed to pass into a convulsion fit, and after that the convulsions continued at varying intervals. After the first fit she sat up in bed and looked wildly around, but was able to put up her own hair. When spoken to she answered "Yes," but nothing more. She gradually lapsed into unconsciousness; she never complained of blindness. Mr. Hanson, on being summoned to the case, and recognising its seriousness, at once called to inform me of the matter. I was unfortunately out at the time, but Dr. John Playfair went with him instead till I should return.

Dr. Playfair saw the patient at 7.5 P.M., up to which time, according to the statement of the attendants, she had had ten fits. She was then completely unconscious. Breathing was heavy, almost stertorous. Respiration 28, and of a distinctly cerebral character, that is, some long and loud, others short and almost noiseless. Skin was hot and moist. Temperature 102°. Pulse 88, weak but regular, and not intermittent. Pupils slightly contracted, equal and

insensible to light.

At 7.15 the patient went into a convulsion, which lasted about two minutes. Respiration was suspended for almost a minute, and the face and neck became extremely livid. The eyes were turned to the right and downwards, and the conjunctivæ were suffused. The mouth was open and the lower jaw fixed, so that there was no grinding of the teeth, and the tongue was not bitten. The arms and legs and body were in strong tonic and clonic spasm, both sides being affected alike, the convulsions possessing no one-sided character. After the fit the pulse was noticed to be 92, and the respiration irregular and stertorous. The face soon regained its wonted pale colour.

On examination per vaginam Dr. Playfair found that the outer os was about the size of a shilling-piece, or barely so large, and felt

rather rigid. The vagina was secreting copiously, and the head was

ascertained to present, the membranes being unruptured.

Dr. Playfair sent Mr. Hanson immediately for me. I arrived at 8.30, but meanwhile the patient had at 7.30 a threatening of a fit, which Dr. Playfair arrested by administering chloroform; after a few minutes another fit threatened, which was arrested in the same manner. At 7.40 a very severe fit ensued, after which the chloroform did not seem to exert the slightest effect. The mouth was noticed to be still kept open, the lower jaw being powerfully depressed, and there being neither protrusion nor biting of the tongue. The face and lips were intensely livid.

At 7.55 another fit threatened, but was warded off by the administration of chloroform. At 8 o'clock the patient became generally convulsed, the chloroform exerting no beneficial effect. Froth, but not blood, exuded from the mouth. The labour pains were now found to recur frequently, and regularly (one in five minutes). There

were no further fits till after my arrival.

Considering the number and intensity of the fits, and seeing that the patient was threatening to collapse if not delivered soon, I judged it proper to hasten delivery by accouchment forcé. On drawing off a teaspoonful of urine by catheter, it was found on heating to assume the consistency of newly-made cheese.

Having brought Barnes's dilators with me, I now proceeded to dilate the os with their assistance. The smallest size only could be introduced at first. As the os was very rigid I was able to dilate the

cervix very slowly.

At 9.30 a fit of terrible severity came on. It lasted for about five minutes. The spasms were violent, but the face did not assume the livid hue it had done on the former occasion. The jaw was still depressed. Breathing after the fit was quite stertorous. The pains were now tolerably strong, and recurring about every four minutes.

At 9.55 another severe fit occurred, lasting almost four minutes. At 10.10, the os being now fully the size of half-a-crown piece, I was able by gradual dilatation to get the cervix sufficiently dilated to admit of my hand slowly passing it, and seizing hold of the child's left knee, effected version, but with considerable difficulty, as, after the leg was brought down, the head, which presented the vertex, occiput to the left and anteriorly, did not readily recede from the pelvic brim, owing to the oblique shape which the uterus by this time had assumed. After practising Sigmund's double manipulation, however, I got the head pushed up and the breech safely brought down and lodged in the brim, after which delivery was easily completed. The child was small, of the male sex, and was still-born. But after I had practised artificial dilatation of its lungs by blowing air into them by means of a catheter, and had for a time employed Schultze's and Sylvester's methods for the maintenance of artificial respiration, as well as other means, the child came round, breathed, and cried.

The placenta was separated and expelled spontaneously. There

was no post-partum hæmorrhage.

A slight fit occurred immediately after delivery. The pulse was now 92; respiration 22, still irregular, but not so stertorous. Dr. Playfair and I shortly afterwards left the patient, Mr. Hanson remaining by her for some time.

At 11.10 the patient had a convulsion, which lasted ten minutes.

Pulse during the time was weak.

At 11.30 another that lasted five minutes.

At 11.45 twenty grains of chloral were administered. This had been ordered to be repeated every four hours. The temperature was

noted to be 103°.5, pulse 120.

From 11.45-12.45.—Three slight convulsions. The patient was then left by Mr. Hanson, she having fallen asleep, temperature 104°, pulse 120.

At 4.30 A.M. Mr. Hanson again saw his patient. The attendants stated that the convulsions had recurred every five minutes for the last two hours. That three of them had been very severe, and

affected one side only.

During Mr. Hanson's stay at this time, the patient had one very violent convulsion, which lasted two minutes, but both sides of the body were affected. Temperature now 104°. Pulse 100, but very feeble. Skin soaked with perspiration. Patient cannot swallow.

At 10 A.M. temperature 104°. Respirations 52. Pulse almost

imperceptible. The patient has had no fit since 5 A.M.

One and a half ounces of dark smoky-coloured urine were drawn off, which on examination was found, like the first specimen, to become semi-solid on heating, and to contain numerous tube casts. The patient can now swallow. Brandy ordered to be freely administered.

At 12 noon temperature was 104°. Pulse imperceptible. Patient continues quite unconscious. At 8.30 P.M. temperature 103°5; and

at 10.30 P.M. the patient died.

A post-mortem examination was allowed, and was performed by Mr. Hamilton twenty-two hours after death. The following is the

result of it:-

Body well nourished. Post-mortem rigidity not well marked. Lips livid and covered with some white mucus. Some frothy bloody stuff exudes from the mouth. Pupils semi-dilated. Mammæ well developed, the areola being well pronounced. The uterus extends to about midway between the symphysis pubis and the umbilicus. Slight cedema of the lower part of the chest. None of any other part of the body.

Head.—Dura mater congested. A quantity of capillary congestion present. Longitudinal sinuses engorged with blood. Vessels of surface of pia mater extremely congested, both large and small capillaries being seen to be enormously distended with extremely dark blood. No adhesion among the membranes. No effusion on the

surface of the pia mater, everything being normal except the excessive congestion. Cerebral convolutions imperfectly developed, but not specially flattened. Membranes at the base peculiarly healthy. The vessels there are not much congested. The medulla and pons seem unnaturally pale on outward inspection. The large vessels appear perfectly healthy.

The corpus callosum is extremely pale and anæmic, so likewise is

the fornix.

The cerebral convolutions when cut into present no capillary injection, no extravasation. The large vessels contain blood, but are otherwise apparently perfectly healthy and normal.

The left corpus striatum appears peculiarly anæmic.

At the anterior portion of the right corpus striatum, where it dips down to form the nucleus lenticularis, there is a dusky red spot, about the size of a pea or a small bean, in which are seen a number of apparently punctiform hæmorrhages. Otherwise the right corpus striatum is as the left.

The choroid plexuses are anæmic. The veins over the right optic thalamus are deeply congested. Both optic thalami are markedly anæmic. The pons varolii is extraordinarily anæmic. So also is the medulla oblongata. The cerebellum is apparently healthy.

The crura cerebri are also anæmic. There is no fluid in any of the ventricles. The fourth ventricle seems longer than usual, and its

floor very anæmic.

The vessels of the meninges of the cord are somewhat congested.

The cord itself is extremely anæmic.

Chest.—Lungs are congested, cedematous, and puffy. The heart is about normal in size, but is noticed to bulge decidedly to the left. Both ventricles were firmly contracted, especially the left. The valves and endocardium were healthy. On subsequent more careful examination the heart was found to weigh $9\frac{1}{2}$ ounces. The left ventricle was discovered to be decidedly hypertrophied—the thickest part of its wall measured three-quarters of an inch. The right ventricle was very slightly hypertrophied.

Abdomen,—Omentum covers the upper two thirds of the abdominal cavity. The uterus lies exposed in front, the small intestines lying arranged around its upper border, but not covering it to any great

extent.

The liver is fatty in certain patches, congested, and containing an excessive quantity of blood. Spleen normal. Kidneys both large and flabby. The capsule strips easily off. Cortex pale. Medulla

deeply congested. No cysts. No adhesions.

The brain and kidneys were taken away for further examination under the microscope. The following is Mr. Hamilton's report of what he found regarding them. Before reading it, I should wish to state that no words of mine can adequately express my sense of obligation and gratitude to him for the trouble and pains he has taken with the cases.

Nervous Centres.—The nervous centres were carefully hardened and afterwards thoroughly and systematically examined. The hardening was conducted chiefly by placing the parts in a mixture of Müller's fluid and spirit, with the subsequent use of a weak solution of ammonium bichromate. The examination was commenced in the cerebral convolutions, and different means were adopted for the purpose of bringing out the structural elements.

It was found that the "Dammar-lac method," whereby the preparation was rendered half transparent, was the most serviceable. Nothing of any great note was observed in the cerebral convolutions

further than the most marked anæmia.

The whole of the smaller-sized arteries and veins, and the capillaries, without exception, were totally empty, unless where here and there they contained a stray leucocyte. The lumina of the small arteries seemed *small*, as if the vessels had been in a state of contraction. But otherwise the whole of the cerebral convolutions seemed normal, the nerve elements and neuroglia corpuscles having evidently undergone no change. A similar anæmic condition, but even, if possible, more marked, was seen in the cerebellum. But its structure otherwise was also quite normal. The small spot of a reddish colour seen in the nucleus lenticularis was specially set apart, and examined

with the greatest care.

It was found that a small hæmorrhage had been the cause of the discoloration. It was not sharply circumscribed, the colouring matter having left the effused blood corpuscles, and stained the neighbouring brain substance. The vessels at this particular spot were peculiarly abundant, and it will be noticed that they are almost totally devoid of blood corpuscles, and in some cases irregularly contracted. The brain substance in the vicinity of this punctiform apoplexy seemed to be considerably disorganised, but no changes of an inflammatory nature were noticed. A slight amount of blood was seen in the adventitious space of one small artery, and in others there were what appeared to be a few wandered leucocytes in the same situation. On examining the upper level of the medulla oblongata nothing further than the above-named anæmia was revealed. But a little further down towards the level of the middle parts of the corpora olivaria, the vessels seemed peculiarly prominent and abundant. the corpora olivaria they formed a most beautiful plexus, but were all totally devoid of any coloured blood corpuscles, although some of them contained a leucocyte here and there. At the same level, in the region between the two corpora olivaria, a further change was visible. This consisted in a deposit of large numbers of leucocytes in a somewhat peculiar manner. They were most abundant immediately around the capillary vessels, and were arranged in little groups of five or six, while at a little distance from these vessels they ran in line, and also formed little rounded groups. The vessels here also seemed to contain in some places a considerable number of the same bodies, and they were seen protruding from the outer aspect of the capillary wall, and then becoming detached, apparently passing into the tissues.

The appearance was chiefly noticed in this region—between the corpora olivaria—but not to any great extent in the corpora olivaria themselves. In the cervical region of the cord the vessels contained a few coloured corpuscles, and in some places exudation of leucocytes

had apparently occurred to a slight extent.

The Kidneys.—The kidneys were likewise carefully examined, and the appearances which were found seem to me to be quite different from anything else I have ever seen in acute renal disease. Judging from the naked-eye appearances, we expected that parenchymatous inflammation of the tubular epithelium in the cortex passing into a state of fatty degeneration would be revealed. The first glance at a section of the organ, however, showed conclusively that this was not the case, and that the lesion was not an ordinary parenchymatous inflammation. On the contrary, it seemed as if the epithelium cells lining the convoluted tubules, in place of being swollen and granular, were peculiarly small, and the nuclei abnormally distinct. To convey as clear an impression as possible of the appearances we shall commence the description with the capsule of the organ, and proceed inwards.

The capsule seemed quite normal, and its fibrous attachments neither increased in number nor in thickness. The convoluted tubules immediately underlying this were very wide, their lumina about twice as large as in the normal organ, and the epithelium lining them very distinct. The individual epithelial cells were much more defined than they usually are; their nuclei abnormally prominent. In a great many of the tubules these were the only changes present; but in many of the others something further was observed. This consisted in the development within the epithelial periplast of a minute drop of a clear homogeneous substance, which, after increasing in size, burst through the cell substance or into the uriniferous tubule. Similar drops were discharged into the tubule from neighbouring cells, and finally these ran together and formed one large globule. In tracing this globule downwards into the medulla it was found to increase in size to an enormous extent, apparently by coalescing with similar globules, and eventually to form a long hyaline cast distending the tubule to twice or thrice its original calibre. The straight tubes in the medulla were in great part choked up with this substance, in some places universally so, whilst in others only every second or third tubule was so occluded. The substance of the tube cast was stained deeply and readily by even weak solutions of carmine. In no instance was the formation of this material in the manner above described observed in the epithelium of the straight tubules. It appeared to arise entirely from the convoluted tubules in the cortex, and to merely pass downwards mechanically into the medulla. It is not within my recollection that I have ever seen anything like this in an acute case without the presence of old-standing

interstitial nephritis. The foreign substance in the tubules was exactly like what is usually designated "colloid," as met with in the tubules in chronic interstitial nephritis, in the thyroid gland, in cedematous ovarian tumours, and in colloid degeneration of cancerous tumours. It is apparently always the product of a true degeneration of epithelial cells, and is extremely apt to accumulate in shut cavities lined by epithelium, such as the thyroid vesicles, obliterated uriniferous tubes, and ovarian cysts.

It is apparently similar to what is sometimes called a fibrinous tube cast. But how it ever came to be so designated seems strange, as in its appearance, mode of formation, and behaviour with reagents, it is totally different. There seems to me very little doubt but it is the same material which occurs in ordinary colloid degeneration, and it would appear to arise from a peculiar transformation of the epithelial

periplast.

The bloodvessels were little if at all altered, and there was no inflammatory exudation between the tubules. The sole change was apparently the degeneration of the tubular epithelium above

described.

Case II.—Delivery Natural—Placenta Retained for Two Hours; meanwhile four severe Eclampsic Seizures occurred—Post-partum Hæmorrhage—Death—Post-mortem examination—General Anæmia, but especially of the Cerebral Centres—Congestion of the Cerebral Meninges—Kidneys in the Second Stage of Interstitial Nephritis.

Mrs. M., aged thirty-seven, residing at Plewlands, near Edinburgh, was confined of her third child on the 18th of January, 1878.

The labour pains began about 10 A.M., and were pretty steady and severe from the first, recurring at intervals of not more than five minutes.

There was throughout the delivery a great deal of hiccup and yawning present, from which, moreover, the patient had been observed to suffer greatly for three days previously. Her look also was peculiar, and her eyes very staring. She maintained a very reticent demeanour, and indeed never spoke, unless interrogated, from the time she was put to bed till the birth of the child, which took place at 2.35 P.M. At this time her extremities felt cold, and on being asked if she felt pain, she replied in the negative; but at the same time stated that she had a strange feeling over her heart, and that there were peculiar noises in her ears. Subsequently to this, when spoken to, she took no notice whatever of what was said to her. The after-birth did not come away spontaneously, and there was no medical man to be got for some time to remove it. The patient was covered up from the cold, and a little whisky-toddy was administered to her.

Meanwhile, there was little or any hæmorrhage perceived. At 2.45, there being still no bleeding, the patient was seized with a severe general convulsive fit. The tongue was protruded during it

and bitten. The head was also turned strongly to the left. Three similar fits followed this one before four o'clock. During the interval between the attacks there was stertorous breathing, and also some yawning and hiccuping.

About four the patient became quiet; but there was now pretty free hemorrhage, especially when the cord was pulled upon, or the

belly squeezed.

Dr. Ronaldson and Mr. M'Callum arrived about 4.40, when the former removed the placenta from the uterus.

The patient died at 5 P.M.

Post-mortem examination made by Mr. Hamilton, forty-seven hours after death. Lips extremely anæmic, pupils dilated and equally so. Post-mortem lividity extremely ill-marked, rigidity slight. Lineæ albicantes seen in abdomen. Abdominal walls flaccid. Slight cedema of the lower limbs and also of the hands. On cutting into the abdominal wall almost no blood visible. Large amount of fat anteriorly. Lower border of the omentum on a level with a transverse line passing an inch below the umbilicus. The uterus occupies the middle of the upper part of the pelvis, the fundus being exactly midway between the upper edge of the symphysis and the umbilicus, in this case three inches from either point. Small intestine pushed upwards. Left ovary situated above the brim along with its corresponding Fallopian tube. The right ovary again was in the hollow of the pelvis. The fold of Douglas was quite empty. The right ovarian vein throughout its lower half was enormously distended with air or gas, being about the thickness of the thumb, and containing very little blood. Left vein also somewhat large, but contained no air.

Chest.—Lungs extremely pale. Do not readily collapse. The right lung the more prominent; both lungs non-adherent. The left cedematous, and slightly congested towards the centre. The right anæmic, at upper lobe somewhat congested, and extremely exdematous at the lower part.

Heart.—The right side contains almost no blood, but when pressed produces a gurgling noise as if from the presence of air. Left side firmer. On that side no gurgling is elicited. The blood

is extremely fluid.

Two milk spots are visible on its surface, one anteriorly, and one

to the right side.

The organ as a whole seems large. Aortic valves are competent. Mitral valve thickened at edges, and it admits two fingers. Left ventricle at its thickest part measures $\frac{1}{4} - \frac{1}{2}$ inch.

The tricuspid valve almost admits five fingers.

The whole tissue of the heart is anæmic and pale, but apparently not fatty.

Liver pale, and its substance anæmic. Spleen pulpy and also anæmic.

Left Kidney.—Anæmic and pale. The capsule strips off easily in

certain parts, in others is slightly adherent and leaves a pale granular surface, with here and there congested venous radicles. A number of isolated roundish, pale nodules, of the size of pin heads, having when cut into a somewhat elongated shape, are seen on the surface of the cortex.

The cortex is diminished in thickness, being only about $\frac{1}{5}$ th of the thickness of the kidney. It is extremely pale, with congested vessels running through it. Medulla also pale, with congested vasa recta, and extremely flabby. The right kidney in an exactly similar condition.

Head.—Dura mater apparently healthy. The vessels of the pia mater congested. Considerable amount of subarachnoid fluid on the surface of the brain. No fluid at the base of the brain. Substance of the pons and medulla pale, but the vessels over them congested.

The corpus callosum, substance of the right and left hemispheres, as also of the fornix, corpora striata, and optic thalami extremely pale and anæmic, showing almost no puncta cruenta. The pons and medulla when cut into were also seen to be anæmic, with here and

there a punctum cruentum.

My observations in the sequel of this paper in reference to the sections above described must be regarded as based almost exclusively upon the facts observed in the former of the two cases. That one was a typical example of the lesion whose pathology is under consideration; and besides, the brain and kidneys have been subjected to an exhaustive examination. The second case can only be looked upon as, on the whole, so far as the brain changes were developed, corroborative of the facts observed so pronouncedly in the first, and nothing more. Thus, it will be seen that although there was scarcely a drop of red blood in the rest of the body, the cerebral meninges were congested, whilst, at the same time, the central parts of the brain showed an equally marked anæmia as in our first case.

The doubts at first suggested to our minds as to whether this was a case of true puerperal convulsions, and not rather one of acute anæmia with general convulsions, were completely set at rest by the intelligent statement of the nurse, and by the detection in the kidney of chronic interstitial nephritis. The latter condition, which was previously unknown to exist, is of itself quite sufficient to account for the fits. I therefore believe that, in this patient's case, we have no reasonable grounds for doubting that we have genuine puerperal convulsions, followed by post-partum hæmorrhage. This complication, according to many authors—e.g., Tyler Smith and Spiegelberg, is exceedingly apt to arise, though I am not able to say that my own practice would lead me to that conclusion.

But, before I commence to grapple with the main problem in hand, let me first recapitulate the chief peculiarities in this extremely interesting case. And, perhaps, I may be allowed to state, that the condition of the brain was quite different from what either Mr.

Hamilton or myself expected to find.

I was specially on the hunt for sand-grain apoplexies in the cerebral tissue in consequence of having had my mind previously directed in that line from my case of so-called tetanus. It will be noticed that it was a little time before we could thoroughly realise the condition of absolute anæmia presented by the cerebral centres. This is made evident on reference to Mr. Hamilton's report by the progressive emphasis with which he dictated the statements regarding the appearances. These I took down verbatim et literatim at the time, and purposely retained them in their original form in order to bring out this fact. The circumstance that the appearances came upon us unexpectedly—indeed, as a surprise—appears to me to afford additional and important evidence, if such were needed, of the truthfulness of the description we have given of the facts observed. Now these may be briefly stated to have been—

In the Brain and Cord-

1st. Intense congestion in the meninges and engorgement of the venous sinuses on the inner aspect of the cranium and spinal canal.

and. Intense anæmia of the deeper portions of the brain, and

especially of the collective motor centres, including the cord.

3rd. Complete absence of any evidence of this anæmia having been preceded by cerebral cedema, as the Traube-Rosenstein theory

of puerperal convulsions predicates.

4th. In the portion of the medulla oblongata between and down to the level of the middle portions of the olivary bodies, and also in the olivary bodies themselves, there were discovered vascular and extravascular changes indicative of commencing inflammatory change.

5th. There was observed a limited extravasation of blood in the anterior portion of the right corpus striatum where it dips down to

form the nucleus lenticularis.

6th. It is at the same time to be noticed that all those changes occurred, although the cerebral bloodvessels, and, indeed, the entire vascular system, was found to be peculiarly healthy.

In the Kidneys—

7th. The naked-eye appearance of ordinary parenchymatous nephritis were found; but, on microscopic examination, something entirely different was detected. This consisted of degeneration of the epithelial cells of a certain proportion of the tubules in the circumferential aspects of the cortex. The degeneration appeared to be of a colloid nature. The products of these degenerated cells ran down and blocked up, more or less completely, the other convoluted and straight tubules, so as to render them functionally useless, although their tissues were not diseased.

8th. Throughout the body the general appearances, with the exceptions above stated, coincided with those ordinarily found when death results from puerperal eclampsia. Thus the liver and lungs, and other internal viscera, were seen to be markedly congested, &c.

Such being the peculiar appearances found in this post-mortem, what deductions do they warrant us to draw in respect to the im-

portant problem enunciated as the theme of this paper, it being granted that the second case, so far as the changes were developed. may be held as corroborating the cerebral phenomena detected in the first case?

In the first place, it is quite conceivable that some might argue that the brain-changes were caused by the fits, and were not a result of them; that, in fact, a fit of great severity had so profoundly modified the cerebral circulation that it was never restored to the normal condition.

But I can hardly imagine this seriously maintained by any one. For, in the first place, the changes were too rigidly limited and too emphatically pronounced to be the result merely of the temporary interference with brain-circulation that a fit could produce. again, had the patient died in a convulsion, a certain amount of value would doubtless have been assignable to such a suggestion. But the patient had had no fit for seventeen hours before death, so that it is quite impossible to conceive that the cerebral disturbance originating in the fits should have remained so long, if the mechanical conditions connected with the convulsions had been the sole factors determining the changes in the brain-circulation.

It might also be maintained that the alterations found were merely a result of the special mode of death—a terminal symptom of the

final struggle for existence.

As the patient died quietly, and apparently from asthenia, it appears to me that this suggestion is really not worthy of being seriously. discussed. It is therefore, I think almost beyond question that the cerebral appearances were established some time before death, and that they were quite different from anything that we could expect as resulting from a convulsion.

If, therefore, the cerebral appearances were not caused by the convulsions, it seems to me only rational to assume that they were, at least, one important, possibly the most important, set of factors in the production of the convulsions—that, indeed, they were the proximate cause of the fits. It becomes, accordingly, extremely interesting to know whether we are able to offer any reasonable explanation of the

origin of those cerebral changes.

The most striking alterations, of course, and those I think which we are entitled to regard as the most essential to the eclampsia, are— (1st.) The extreme anæmia of the collective cerebro-spinal centres; and, (2nd.) The coincident equally extreme meningeal engorgement.

These two conditions seem to me, however, to be complementary, the latter being the direct result of the former. My explanation of this mutual relation is as follows:—The sudden anamia of the deeper portions of the brain would necessarily lead to loss of bulk or shrinking in those parts of the organ. But, in consequence of the special conditions under which the cerebral circulation is maintained, the cranial cavity must necessarily be always full. This would necessitate the retention in the surface of the brain of venous blood to

occupy a space corresponding with the loss of volume resulting from the deep anæmia. In this way, it appears to me that the main congestive changes in the meninges can be accounted for. The arterial engorgement on the surface of the pia mater will not admit, however, of being so explained. That condition is indicative of the presence of a state of the arteries on the surface apparently the opposite of that assumed to be present in the centre of the brain.

The chief burden of this contribution seems to me, therefore, to be to explain, if possible, in what manner this extraordinary anaemia of the cerebral centres arose. For, after the exhaustive researches of Tenner* and Kussmaul upon this subject, it may be taken for granted that sudden anaemia of the cerebral centres, such as was detected here, is, at least, one cause sufficient to induce general convulsions.

It is well known that many other causes may produce this as a result. But if it should be found, and these two cases point in this direction, that case after case of puerperal eclampsia presented anæmia of the cerebral centres as a constant accompaniment, and if, at the same time, on other grounds, such a condition is allowed to be capable of inducing general convulsions such as we see in eclampsia, it does appear to me that we are most probably on the road towards a solution of the essential pathology of this terrible lesion.

Assuming, therefore, that this extreme anæmia of the cerebral motor centres was the proximate cause of the eclampsia in these cases, how did it arise? What were the conditions that led to its

development?

We turn instinctively to the beautiful theory of Traube as applied to puerperal convulsions by Rosenstein,† and which is ordinarily

known as the Traube-Rosenstein theory.

According to this view, eclampsia, or so-called uræmic convulsions, occurring in the pregnant or puerperal condition, are not occasioned by the presence of any poison in the blood, but result from cerebral anæmia, which, again, is a consequence of cerebral ædema. The explanation of how this condition is brought about is as follows:— The blood of pregnant women is normally increased in quantity, but of defective quality—being, in fact, too watery. It is, moreover, propelled under increased tension, inasmuch as the left ventricle of the heart hypertrophies during pregnancy, especially during its latter months. During the labour, particularly during the down-bearing pains, the already abnormally exalted tension is very greatly increased. If, now, to those physiological conditions kidney lesion is superadded with its deteriorating effects upon the blood and its influence in the development of cardiac hypertrophy, we have produced a state of matters that presents us with a large amount of blood of defective quality circulating in vessels subjected to a very high tension.

The result of this, according to the Traube-Rosenstein theory, is

^{*} Kussmaul and Tenner "On Convulsions." New Sydenham Society, 1859. † Rosenstein, "Die Pathologie und Therapie der Nierenkrankheiten," 1870.

that we have first produced cerebral hyperæmia. This leads to effusion of serum from the watery blood into the cerebral tissues. So soon as the ædema has thus been produced, it reacts from the incompressibility of the fluid composing it so as to prevent the dilatation of the cerebral vessels traversing the ædematous areas, and anæmia is the result. If this occurs in the cerebrum, according to our authors, we have coma; but if it arises in the motor centres, convulsions are the result.

But when we examine for traces of cerebral cedema in our first and most typical case, it is nowhere to be found. It will be noticed, on reference to the report of the sectio, that the cerebral ventricles were found to be quite empty of fluid, which could not have been the case had there been cedema of the cerebral centres, and there was no evidence otherwise of cerebral ædema. In the second case, it is observed that there was an excess of subarachnoid fluid on the cerebral surface. But this appears to have been of the nature of a complementary arrangement for the contraction in bulk arising out of the sudden anæmia in the central parts of the brain. Also, there was no evidence of antecedent general dropsy in either case. In the first case the patient was strong and healthy, and never complained till two days or so before she was struck down with this illness. It is true her heart had the normal hypertrophy, which we know accompanies pregnancy; and, moreover, her kidneys were suddenly rendered functionally almost entirely useless. There was thus abundant reason to assume specially high tension when the labour came on. But the eclampsic attacks appeared before the pains of labour were fully established; and, moreover, the cerebral changes were not such as we could expect simple tension to have effected.

On these grounds, I am reluctantly compelled to confess that it seems impossible to me to apply the Traube-Rosenstein theory, beautifully fascinating though it be, to the explanation of the main

specialty in these cases.

Bartels* has expressed similar difficulty in reference to the cerebral appearances of non-puerperal patients dying under his care from so-called uræmic convulsions. He, however, with much truth, touches on the difficulty experienced by the physician in determining by ordinary inspection the ædema existing in the cerebral tissues, and states, at the same time, that by the most careful inspection by the naked eye, he failed to discover such a degree of wateriness as would agree with Traube's theory.

The record given by him of one interesting patient that died from the second of two epileptiform seizures, is extremely interesting from the point of view from which we are now regarding this problem. This refers to a young woman, aged twenty-two, who suffered from chronic interstitial nephritis, with marked hypertrophy of the left side of the

^{* &}quot;Handbuch der Krankheiten des Harnapparates," Erste Hälfte, s. 120, Ziemssen, Bd. ix. a.

heart. Shortly before admission she had had a severe hæmoptysis, and was reduced to a condition of extreme anasarca and anæmia. This deplorable state was further made worse during her short stay in hospital previously to her death, by her inability to take anything except fluids, by much vomiting, and finally, by a blood-letting of about four ounces when she was in the first fit. After recovering from this seizure she took a good draught of water, and five hours afterwards a second fit came on, for which she was again being bled, when she died.

If there ever had been conditions likely to establish anæmia of the cerebral centres, as a result of primary ædema, such a case was that one. But I cannot but think I give a fair idea of the postmortem appearances as given by Bartels in this case when I state that the cerebral tissues presented appearances not at all unlike those detected by us in our cases, only that the peripheral congestion was less marked than in our first case, apparently because there was extremely little red blood left in the poor woman's body at the time of her death.

I am therefore driven to the conclusion that the cerebral anæmia in those cases of mine was not the result of over-distension of smaller arteries and capillaries, but that it followed from spasm of the arteries in the anæmic areas, however this condition may have been brought about.

But, while rejecting the Traube-Rosenstein theory as not applicable to the explanation of the phenomena, I cannot help confessing that I am greatly at a loss how to account for them. It appears necessary for us to impress into our service a great-many facts brought out in the examination, before we are in a position to adequately explain the conditions.

In the first place, I would draw attention to the fact that is abundantly proved from many phenomena connected with pregnancy, and especially by the effects that pregnancy produces upon cardiac disease, when the latter is found to co-exist with it—viz., that pregnancy seriously modifies the condition of the vascular system generally, alters its tension during the latter months, and makes it in some way very specially liable to derangement and disease.

The same is also equally true of disturbances in the domain of the nervous system, as evidenced by the great frequency with which nervous affections long latent are called into activity during a pregnancy, and from the frequency with which mania and other nervous

diseases follow in the wake of a confinement.

These facts have been of late elucidated with characteristic ability by Dr. Barnes* on more than one occasion, so that I need not go further into the details regarding them.

In support of the first statement, I may be allowed to refer to my

^{* &}quot;Pregnancy and General Pathology," Transactions of American Gynacological Society, vol. i. p. 144.

papers on the "Bearings of Chronic Disease of the Heart upon Pregnancy and Parturition," published in the Obstetrical Journal

FOR GREAT BRITAIN AND IRELAND during 1877.

But the most peculiar and, I cannot help thinking, the most active component of all the factors that co-operated in the production of the intense cerebral anæmia, seems to me to have been the sub-inflammatory changes described by Mr. Hamilton, as affecting the part of the medulla oblongata about the level of the olivary bodies, and intermediate between these structures. These structural changes had advanced not only to capillary distension, but actually also to the escape of leucocytes into the extra-vascular tissues, so as to evince unmistakably the existence of commencing inflammatory action. In the olivary bodies themselves, it will be noticed that the only change observable was special prominence of the vascular plexuses.

In reference to the bearing of this condition of the medulla oblongata upon the subject in hand, let me here refer to the well-known observations of Owsjannikow,* to the effect that in the rabbit the vasa-motor centre of the whole body is restricted to a space in the medulla oblongata, limited inferiorly by a point four millimetres above the extreme point of the calamus scriptorius, and superiorly by a point 1-2 millimetres behind the posterior border of the corpora quadrigemina, the centre itself being about four millimetres in extent. According to the same author, this centre is bilateral, being symmetrically disposed on either side of the mesial line, whilst its position, measuring from before backwards, is nearer the anterior

surface of the medulla than the floor of the fourth ventricle.

If now we take the measurements as given for the rabbit, and apply them merely relatively to the human medulla, it appears that if we divide the line running from the posterior edge of the corpora quadrigemina to the apex of the calamus scriptorius into ten equal parts, the vasa-motor centre would be situated in the second and third fifths of this distance, measuring from above downwards. That measurement would take us pretty nearly to the middle third of the distance, but with a slight inclination upwards more than

downwards.

As this localisation of the vaso-motor centres given by Owsjannikow would bring them very much into the space that was found altered, it appears to me that these centres must have been involved

in the sub-inflammatory changes observed by Mr. Hamilton.

If anything, the position of the sub-inflammatory action was placed rather low down. But it must be remembered that even if that were so, and if the irritative process had not involved the whole of the centres, yet the collective vaso-motor fibres must have passed through the affected space, from the proximity in the downward direction of these changes to the centres. It is a known fact that the efferent fibres from these centres pass all downwards at first.

^{*} Ludwig's "Arbeiten," 1871, p. 21.

I have further to draw attention to a fact that appears to me to show that this sub-inflammatory change in the medulla acted as an irritant to the nerve centres. It will be noticed that our first case of eclampsia has an important peculiarity in its symptomatology, namely, that during the attacks the lower jaw was powerfully depressed. It is almost always found in such cases that the tongue is not only protruded but badly bitten, in consequence of the lower jaw being powerfully shut. But it is noted again and again in this patient's case, that whereas the muscles generally, including those of the head and face, were thrown into a condition of tonic and clonic spasms, the lower jaw was observed to be powerfully depressed.

I read this as indicating that the centres of the hypoglossal, which supplies the depressors of the lower jaw and the larynx, had been within the range of the sub-inflammatory irritation. This nerve, as also the vagus and the glossopharyngeal, takes origin about the level of the middle third of the olivary bodies, but in the floor of the fourth ventricle. Further, the respiratory action was noticed from the first to be affected specially—indicating participation of the vagus in the

irritative changes.

The masseters, on the other hand, do not seem to have acted so powerfully as usual, because it would appear that the main irritation in the medulla had been operating in a situation somewhat below the origin of the motor roots of the fifth pair of nerves that supply

these muscles with motor fibres.

Then the extraordinary manner in which the tubules of the kidneys were choked up by the rapid accumulation of the colloid matter, resulting from the degeneration of certain of the epithelial cells, at once arrested their functions as blood depurators, and as excretors of water. In consequence, the blood would not only tend to increase abnormally in amount, but to rapidly depreciate in quality, so that it would not only be injurious by its bulk, but would also act as an irritant, through the instrumentality of the excrementitious materials retained in it.

Dr. George Johnson* has laboured to show that under such conditions the smaller arteries contract, and refuse, so far as in them lies, to allow such an objectionable material to pass into the tissues. He refers this to the regulating action of the vaso-motor nerves, but he

does not explain how this arises.

If I am correct in my reasoning, it would seem that the nerve cells of the vaso-motor centres were most probably directly irritated by the impure blood circulating through the centres, and in consequence induced by excess of action an exalted degree of inhibition on the collective arterial system. As a result of this, the blood would tend to leave the arterial system, and to accumulate in the veins. There would be pallor and rather a slow pulse, which, however, would feel weak as the radial would necessarily be small. This state of matters

^{* &}quot;Lectures on Bright's Disease," p. 72, London, 1873.

is not contra-indicated by the general appearance of the patient in the first case, for it is noted that between the attacks she was pale, and that the pulse was small. The rate, moreover, considering the temperature and the great exhaustion, was, on the whole, slow, for it is noted, after the fits had been well established, as 88, though the temperature was as high as 102°, and even after delivery it was only 92°. It ultimately rose to 120, apparently in consequence of the exhaus-

tion following the labour and the fits.

I have assumed that the blood charged with the collective excrementitious matters, which it is the duty of the kidney to remove, acted as a direct stimulant and irritant to the vaso-motor centres, and thus led to general arterial contraction acting centrifugally. It is, however, quite possible to conceive that the poisoned blood should have acted throughout the tissues upon the afferent fibres of the vaso-motor system, and thereby have originated a stimulus which was conducted from the tissues generally to the vaso-motor centres, whence it was reflexly communicated to the arteries throughout the body. In that case the subinflammatory changes discovered in and about the vaso-motor centres would have resulted from prolonged and severe reflex stimulation, and not from the local action of an impure blood upon the centre itself.

It is possible that the results observed may have been partly occasioned by the one of these conditions and partly by the other, the impure blood acting as a local stimulant to the centres themselves, and also as a reflex stimulant to the afferent nerves leading to these

centres from the various regions of the body.

That there did exist over-stimulation of the vaso-motor centres appears to me extremely probable, when we consider the results as to the localisation of those centres obtained by Owsjannikow, and at the same time views, in the light which this knowledge gives us, the conditions above described in the part of the medulla intermediate

between the upper portions of the olivary bodies.

The essential element, therefore, in the pathology of this case would seem to me to be reduced to a condition of over-action of the vaso-motor centres, from the stimulating action upon them of a blood rendered impure through retention of the collective excrementitious matters which the kidneys ought to have removed. By this over-stimulation there is produced a high degree of anamia of the deeper cerebral regions and central portions of the cord, and coincidently a collection of the blood in the venous sinuses within the cranium and the spinal cavity, and in the meninges. This effect of defective blood-supply is at the same time aided by the peculiar conditions of the venous and blood-vascular systems conditioned by the pregnancy.

Why the anæmia produced by arterial contraction should be so marked and persistent in the deeper portions of the cerebrum and the cerebral parts of the cord, it seems very difficult to explain. It does occur to one as a partial explanation that once this state of matters had become fully established, it would be difficult for the

cerebral arteries to dilate freely, so long as the central irritation continued, as the venous congestion in the periphery of the brain would tend to act as an obstruction to their dilatation; and the more so if I am correct in believing that there had been over-action of the arterial system generally, as this would lead more and more to the accumulation of the blood within the venous system under consequently ever-increasing tension, so that it would constantly become more and more difficult for the meninges to be cleared of their congestive contents under the action of the small stream of blood that the spasmodically contracted arteries would allow to pass.

Be this as it may, I am very much confirmed in my opinion regarding the nature of the various processes at work in the production of these effects by the results obtained therapeutically from two agents that are very unlike, and yet agree in this far, that they lower the tone of the vaso-motor centres—I mean chloral and blood-letting.

I can confidently appeal to the experience of all my confrères who have had the opportunity to watch cases of puerperal convulsions, and who have tried both chloral and other medicaments in the treatment of eclampsia, and feel certain that they will assure me that

chloral has given them by far the best results.

The older authors, long before we knew anything of chloral, obtained wonderful success from blood-letting. I have myself recorded one case where blood-letting gave excellent results. But wherein is the common bond of action? I was interested, when ransacking the literature of the vaso-motor system, to find what I think helps materially to answer this question in Foster's "Physiology."* The following is the part that bears on this subject:—

"Now, if the central stump of the divided sciatic (or any other nerve containing afferent fibres) be stimulated under urari, a rise of pressure, sometimes the exact reverse of the fall caused by stimulating the depressor, is observed. The curve of the blood pressure, after a latent period, rises; it begins to rise without any change in the heart's beat, gradually reaches a maximum, and after a while slowly falls again, even though the stimulation be still kept on. So constant is this result that it has proved of great value in determining the existence of afferent fibres in any given nerve, and even the paths of centripetal impulses through the spinal cord. If, on the other hand, the animal be under chloral instead of urari, a fall quite similar to that caused by stimulating the depressor is observed, instead of a rise. Thus, according to the condition of the vaso-motor centre, or to circumstances affecting it, the same stimulation of the same nerve may at one time produce a fall and at another a rise of blood pressure—i.e., may either depress or exalt the action of the centre.

"The causes of this difference are not yet clearly worked out. Variations in respiration will not explain it. Nor can the solution be found by supposing that in urari poisoning cerebral functions are

active, while in chloral poisoning they are in abeyance.

^{* &}quot;A Text-Book of Physiology," 2nd edition, p. 163.

"If the brain be removed without much bleeding, subsequent stimulation of a sensory nerve under urari still gives a rise of pressure. If there be much bleeding, however, a fall is witnessed. This suggests the idea that after bleeding and under chloral the vaso-motor centre is enfeebled or exhausted, and that stimulation of the enfeebled or exhausted centre always causes depression."

Now, the effects of chloral in lowering vaso-motor action seems sufficiently to explain its therapeutic use in considerable and sustained doses in eclampsia, whilst there is no doubt about the effect of blood-letting, even to a moderate amount, in diminishing vascular tension—i.e., as I take it, in depressing the action of the vaso-motor

centre.

This fact, further, goes far to remove from my mind a consideration that has always weighed very much with me as a serious objection to the acceptance of the toxemic nature of eclampsia. I mean the argument that it was difficult to understand how any substances of a poisonous nature should be present in the blood in such amount as to cause convulsions, whereas, if a small fraction of their absolute amount were removed by blood-letting, the convulsions ceased. If, however, we look upon the effect of the blood-letting, not as a mere separation from the system of a few ounces of blood, but as an influence directly lowering the action of the irritated vaso-motor centre, it does seem to me that the beneficial consequences are very much more intelligible.

The temporary congestion of the face during an eclampsic seizure in no way militates against the view that there was general arterial contraction, as it is merely the result of the partial asphyxia arising during the fit in consequence of the tetanic condition of the respiratory muscles. The patients in the intervals between the attacks are observed to be pale. The accumulation of an undue proportion of blood in the venous channels throughout the body, in consequence of contraction of the arteries, would account for the congested appearances of the liver, lungs, and other internal viscera found invariably in the post-mortem examinations of patients who have

succumbed to an attack of eclampsia.

It has also occurred to me that the intense headache, which patients so frequently complain of when an attack of eclampsia is imminent, may possibly result from the congested condition of the meningeal membranes, as well as from the dragging that would arise upon the cerebral membranes, from the shrinking centripetally of the brain substance consequent upon the loss of volume in the more central portions of the organ, which the acute anæmia would necessarily induce. The flashing of light, and other disturbances of vision, may also be referred to the central circulatory changes taking place in the brain.

It will thus appear that I accept the old toxemic theory as after all the most probable starting-point in cases of puerperal eclampsia; but that, by reference to exact anatomical observations, I am driven to the conclusion that the poison acts by irritation of the great vaso-

motor centres for the body in the medulla oblongata. My conclusions, therefore, merely tend to localise an effect that was previously assumed to act somehow, without any attempt being made to determine very particularly its exact mode of action.

(To be continued.)

Obstetric Summary.

A Case of Hæmatocele Consecutive to Extra-Uterine Fætation.

Dr. Dumontpallier relates a fatal case of extra-uterine fœtation, which furnishes an interesting illustration of the relation of epileptiform convulsions to uræmic poisoning, and to loss of blood. The patient was a housekeeper, twenty-nine years old. Menstruation commenced at the age of eleven, and had been regular, but the period generally lasted from twelve to fifteen days. She had been married, and had three children in the course of several years. About November, 1876, she began to suffer from slight abdominal pain, but this did not interfere with her occupation. On February 19th menstruation commenced as usual (having been regular up to that time), and continued till March 1st, when she was suddenly seized with acute hypogastric pain, nausea, and vomiting, and became cold, faint, and extremely pale. A small clot was passed on this day, according to her description. Pallor and exhaustion increased, and on March 3rd she was admitted into the Hôpital de la Pitié.

At her admission she was excessively blanched, the mucous membranes decolorised, the tint of her skin like white wax turned yellow by age. In the abdomen was a firm, irregular, but elastic tumour, reaching up to two finger-breadths from the umbilicus, and extending into the pelvis. It filled the right iliac fossa, and, in less degree, the left iliac fossa also. The cervix was much displaced upwards and forwards, and a rounded mass, not distinctly fluctuating, occupied the pelvis posterior to it. The os was soft, and admitted the tip of the finger. The patient stated that pregnancy was impossible. The diagnosis made was that of retro-uterine hæmatocele, with a large amount of blood effused. For several days repeated attacks of syncope occurred. Transfusion was several times contemplated, but was not performed. By the 9th distinct improvement had taken place. On the 17th pain commenced in the right iliac region, and the temperature rose to 40°2 C., with some tympanitic distension of abdomen. These symptoms were attributed to peritoneal inflammation around the effusion, and lasted only three days, the highest temperature reached being 41° 2 C. On the 20th, the normal date of menstruation, a slight loss of blood commenced. On the same day, a peculiar spasmodic attack occurred, all the limbs, especially the arms, being strongly flexed. The head oscillated from side to side, and the eyes rolled. A similar fit occurred on the 21st. On the morning of the 22nd a succession of epileptiform fits, like those of puerperal eclampsia, commenced. In the intervals there was complete unconsciousness, with tonic contraction of the arms, the face being pale, but lips purple from congestion. These attacks continued, without any recovery of consciousness, for about twenty-four hours. After this she appeared to become more conscious, but the face was congested as from asphyxia, and tracheal râles were heard; temperature, 39°·5 C. She died on the evening of this day, the 23rd of March.

At the autopsy, all the lower part of the abdomen was found to be filled with a large clot, enclosed within a kind of capsule formed by agglutination of intestinal coils. The uterus was pushed upwards and forwards, reaching three finger-breadths above the pubes. The right iliac fossa was filled, in great measure, by a portion of the clot. The different layers of the clot varied in colour and consistence, showing it to have been formed successively at different times, the most recent portion being that near to the right broad ligament. On carefully separating the clot an amniotic sac was discovered, containing a fœtus $5\frac{1}{2}$ cm. in length, corresponding to a development of between 21/2 and 3 months. The funis was slender, 9 cm. in length. It was attached to a placenta 2 cm. in thickness, which was blended with the pavilion of the right Fallopian tube. The right ovary showed a corpus luteum 2½ cm. in diameter. Both Fallopian tubes were permeable and unaltered. The uterus was 9 cm. in length, its walls 2 cm. thick. It contained no decidua visible to the naked eye. The quantity of clot turned out was 800 grammes, and the whole amount was estimated at about one kilogramme. Both ureters had been compressed by the clot, and, above the point compressed, were distended to the size of an egg. The pelves and calices of the kidneys were dilated in corresponding degree, being on the right side at least three times their normal capacity; on the left side not quite so large. The urine was examined, and found to contain a very small proportion of urea, that in the bladder containing $6\frac{1}{2}$ per 1000, that in the right ureter only $3\frac{1}{2}$ per 1000. The author attributes the eclamptic convulsions and the fatal result to uræmia, due to incomplete excretion of the urinary solids in consequence of the compression of the ureters, and commencing secondary deterioration in the kidneystructure.

Some interesting histological details are given of the structure of the placenta, from an examination made by Dr. de Sinety. It proved to be closely analogous with the placenta of uterine pregnancy. As in that case, the middle layer consisted of chorionic villi and blood sinuses. Around the villi, as in the normal placenta, existed that layer of cells which by Ercolani are regarded as of maternal origin, and are identified with the giant cells of the decidua. Towards the maternal surface such cells formed an almost continuous layer, less thick than in a uterine placenta, but identical in appearance. Dr. de Sinety considers this a confirmation of his view that these cells are not derived from the uterine epithelium, but from lymphatic cells. None of the non-vascular lacunæ, regarded as remnants of hypertrophied uterine glands, were discovered. On microscopic exami-

nation of sections of the uterus the glands were found to be slightly hypertrophied, and the whole mucous membrane infiltrated with small round cells. There was no trace of surface epithelium continuous with that lining the glands. In parts the glandular layer was covered, on its internal surface, by a layer from $\frac{1}{10}$ to $\frac{1}{5}$ mm. in thickness, consisting of embryonic elements, among which numerous vessels were irregularly distributed. On the whole there was much less development of decidua than in a tubal pregnancy of similar date described by Ercolani, a difference which the author thinks may be due to the feetal sac having been more distant from the uterus, and so having acted less powerfully upon its nutrition.—Annales de Gynécologie, January, 1878.

The Etiology of Face Presentations.

In a paper published in the Archiv für Gynäkologie, B. xii. H. 2, Dr. Mayr maintains a view similar to that of Hecker on the influence of the primary shape of the skull in the production of face presentations, and supports it by statistics derived from the Lying-in Hospital at Munich. In 14,519 deliveries there were 107 face presentations, or 0.73 per cent., and 15 brow presentations, or 0.103 per cent. The number of first positions of the face to second positions was in the ratio 1.4 to 1. Hecker's statistics give a ratio of 1.3 to 1, and therefore, taking the normal ratio of first to second positions of the vertex as being 2.3 to 1, it is proved that a face presentation arises more easily when the back of the child lies to the right. The mean direction of the first stage of labour in 38 primiparæ was 23.6 hours; that in 69 multiparæ, 14.5 hours. The mean duration in the second stage in the 38 primiparæ was 12½ hours; in the 69 multiparæ, 1.26 hours. The general duration of labour was therefore considerably greater than in vertex presentations, although it was accelerated artificially in a greater proportion of cases. Version was not employed in any of the 107 cases, but forceps were used seven times, or in 6.5 per cent. of the cases, the general forceps ratio being only 2.5 per cent. Rupture of the perineum occurred in 7 cases, but in none of those in which forceps were employed. This gives a proportion of 6.5 per cent. of ruptured perineum, while that in vertex presentations was 4.6 per cent. Of the 107 mothers, 11 suffered from puerperal maladies. Four patients delivered by forceps suffered from puerperal peritonitis. Three of these died; the fourth was removed while seriously ill, and the issue was not ascertained. Another case of severe puerperal disease was also removed, and the result remained unknown. Thus cases of face presentation gave a mortality of 2.8 per cent. or more, and a morbility of 10.3 per cent., as against a general mortality of 1.7 per cent., and a general morbility of 4.7 per cent. As to the children, 52 were male, 55 female; 2.8 per cent. were dead before labour commenced, as against a general percentage of 2.19; 6.54 per cent. died during labour or shortly after delivery, as against a general percentage of 3'1. Face presentation

is therefore shown to involve a considerable increase of danger both to mother and child.

With regard to the causes which promote face presentations, the author found that in 63 cases the proportion of the weight of the child to its length was above the normal mean ratio, and in 47 cases was below it. The mean in face presentations was 6699 grm. in weight per 100 cm. of length; the normal mean, as derived from the statistics of various authors, being '6484 grm. per 100 cm. in length. There is, therefore, some confirmation for the inference arrived at by Ahlfeld on the ground of theoretical mechanics, that the greater the weight of a child in proportion to its length, the more readily is a face presentation produced. The heads were measured after delivery as to their circumference, antero-posterior diameter, diagonal (or maximum) diameter, and greatest transverse diameter, and many of them were also measured after the lapse of a week. The mean circumference was found to be 0.93 cm. above normal; mean diagonal diameter, 0.26 cm. below normal; mean antero-posterior diameter. 0.59 cm. above normal; mean transverse diameter, 0.11 cm. above normal. These results coincide with those of Hecker in showing, in cases of face presentation, an excessive prolongation of the occiput, and an excessive maximum transverse diameter. The author thinks that the former is due in part to the mechanism of delivery, but that this is not sufficient to account for the whole.

In normal skulls the antero-posterior diameter is 1.72 cm. less than the diagonal (or maximum) diameter; in the cases of face presentation the mean difference was only 0.87 cm. In 46 of these, measured again after the interval of a week, the mean difference was 1'11 cm. The author has no corresponding figures for skulls delivered by the vertex, and measured at the end of a week. Budin, however, from heads measured forty-eight hours after birth, at which time he considers them to have recovered their normal shape, gives a difference between diagonal and antero-posterior diameters of 1.75 cm., somewhat greater than that immediately after delivery. The author therefore concludes that this unusual length of the antero-posterior, compared with the maximum diagonal diameter, by which is implied an excessive projection of the occiput, was a primary quality of the heads delivered by face presentation, and not merely a result of the mechanism of labour. This confirms the view of Hecker, and is in opposition to the results of Budin, who found that heads delivered by face presentation returned after a time completely to the normal outline.

Besides the effect of excessive projection of the occiput, by which the leverage of resistance or friction applied to the occiput is increased, the author thinks that light is also thrown upon the mechanism of face presentations by the fact that heads so delivered have an excessive maximum transverse or biparietal diameter. For if this be the case, the head will be most tightly gripped by the brim in the biparietal diameter, its axis of motion relatively to the pelvis will be at this point, or further back than usual, and the effect of the expul-

sive force will then be to cause extension of the head.

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Communications received from Dr. J. Williams, Professor Stephenson, Dr. Lombe Atthill, Dr. T. Chambers, Dr. Foulis, Dr. Pinnock, Dr. Godson, and Dr. Louis Henry.

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Original Communications.

ON THE MECHANISM OF LABOUR.

By WILLIAM STEPHENSON, M.D., F.R.C.S.E. Regius Professor of Midwifery in the University, Aberdeen.

(Continued from vol. v. p. 784.)

Occipital Forward Rotation.

In previous papers we have discussed the mechanism, or more properly the mechanics, of the passage of the head through the first portion of the parturient canal, whilst the movements are restrained by the soft parts alone. We would now examine the influence of the ligamentous pelvis and the nature of the movements which are thereby imparted to the head. Clinical observation has determined the general characters of these movements. There is still some discussion as to certain points, whether the head continues to be synclitic with the planes of the pelvis or not, and there are inaccuracies in terms which show that the exact nature of the movements is not understood; but regarding the general features there is a concurrence of opinion. The head descends in the direction of the axis of the inlet until it meets with the resistance of the hard structures; chin-flexion is then increased; and the occiput rotates forwards and emerges under the arch of the pubis. At this point the head is found to present, not directly as at the brim, but obliquely, so that there has been a third movement imparted to it, whereby its transverse diameter, from being horizontal in the pelvis,

is inclined at an angle, that end being lower which corresponds with the side of the pelvis in which the occiput lay. The further progress we do not at present take up. The movements then for which we have to find a mechanism are chin-flexion, occipital forward rotation and lateral rotation.

Of the various opinions which have been advanced to explain these movements, none are wholly satisfactory. That some spiral arrangement exists in the pelvis is evident, but its nature has not yet been demonstrated sufficiently to meet all the varied conditions of the problem. The influence of the ischial spines, and of the anterior inclined plane, meets to a certain extent the requirements of the occipito-anterior presentations, but affords no explanation for the occipitoposterior. This view has been rejected by others, who seek in the posterior wall and floor of the pelvis, the influence required. "By the resistance of the posterior wall the head must be pressed forwards. Since the head passes slowly through the pelvis that portion of the head which presents will have first to assume the forward direction."* This gives us a forward movement of the head as a whole, not a rotatory movement. There must be a contrary force preventing the head advancing as a whole: to produce rotation there must be two contrary forces. This view therefore is insufficient. moreover not always true. If in the first obstetric position the head descends with the anterior portion leading, the latter does not rotate forward. Progress is simply arrested, until by the escapement movement, described in a former paper, the forehead ascends and the occipital end becomes the lower. To assign therefore the mechanism of rotation to the posterior wall and floor of the pelvis alone is insuffi-

To throw light on the Mechanism of Labour, numerous sections of the pelvis have been made. In this way various curves have been demonstrated. The value of a curve is its relation to its line of reference. The transverse sections which have hitherto been made, have had reference to the

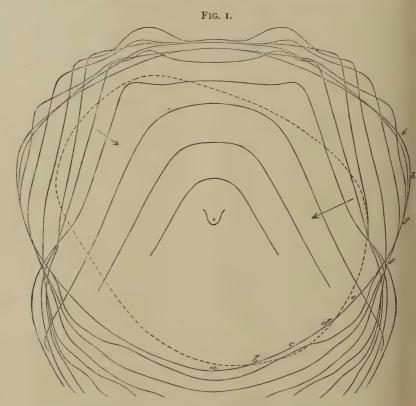
^{*} Schroeder's "Midwifery," English Translation, 1st ed., p. 78.

axis of the pelvis. By this means we can obtain only those curves which determine the passage of the head in the direction of the pelvic axis. They cannot bring out those which cause the rotations we are discussing. For this purpose a different line of reference must be taken—namely, that of the driving power, or the prolonged axis of the brim. All the sections must have the same relation to this line, the curves then obtained will have a relative value. In all mechanical problems, it is the line of the driving force that is taken for reference, and this principle is the only one which is likely to afford a satisfactory solution in obstetrics.

By means of the valuable series of casts of the interior of the pelvis prepared by Dr. Ziegler under the direction of Professor Hegar, I have been enabled to make a series of sections, according to the above principle, and to construct therefrom the accompanying figures. No I represents horizontal sections or planes of the pelvis, parallel to the plane of the brim, and at right angles to its axis. They are made at regular distances of about the third of an inch. The uterine force acts at a perpendicular to the planes at the central point. The diagram conveys to the eve a clearer idea of the relations of the different portions of the pelvis to one another, than has as yet been obtained; and enables us to estimate more accurately the relative amount of pressure, at the different stages, and the direction of the forces which are brought into play by the resistance of the hard structures.

Much that is vague and inaccurate in writings, and differences of opinion, have arisen from want of precision in the terms that are employed. Thus the sides of the pelvis, the posterior wall, and the floor, are used without definite ideas of what constitutes the one and what the other. The following passage from Schroeder shows the inaccuracies which exist in writings:—"Whilst on the sides of the pelvis the resistance remains the same, it becomes totally different on the anterior and posterior walls. For the anterior wall is formed only by the short symphysis, the posterior by the sacrum and coccyx. The resistance from the posterior wall soon preponderates over that from the anterior. This is still

further increased by the attachment to the posterior wall of the powerful, unyielding pelvic floor."* A glance at the diagram shows that if the sides are to be restricted to the portion where the resistance remains the same, "the floor" must have a much wider area than is generally considered. But it is not correct to say that the resistance of the sides



remains the same; this is true at one point only, and if the anterior wall is limited to the symphysis and the posterior to the sacrum, the sides must be considered to have a distinct twist, whereby the anterior portion shelves outwards, the posterior inwards. Again, should we regard the whole of the sacrum

^{*} Ibid., p. 77.

as posterior wall? If so, there is a portion on the same level as the floor. And what are we to consider the "floor?" Schroeder speaks of it as "unyielding," whilst others limit it to the "perineal strait, open in the skeleton," closed in the body by "two muscular layers."*

Our diagram enables us to assign accurate limits to the They should have reference to the mechanical views. not merely anatomical structure. In this light a portion of the sacrum forms part of the floor. I would propose thusthe outline of the section on a level with the lower margin of the ramus of the pubis, the line most external in front in the diagram should be taken as defining the different parts. The lines within and below it constitute the floor; all posterior the posterior wall; the structures to the right and to the left, the sides; and all in front of the perpendicular line, where the sections cross each other, constitutes the anterior wall. It will also be convenient to divide the floor into a posterior portion, part of the sacrum and coccyx; a lateral portion, formed by the ligaments; and an anterior or perineal portion. By this we can attain the precision important in description and necessary for discussion.

A very convenient mechanical principle which we can employ in our investigations, may be expressed thus:—when a body such as the fœtal head is subjected to various pressures in different directions, movement will take place in the direction of least pressure. For each plane of the pelvis, the degree of pressure in that plane is indicated by the outline; the pressure will increase or diminish according to the distance from the central point. The direction of the pressure exerted by that plane is a perpendicular on its outline at the point of contact.

First, let us examine the pelvis, to determine the direction in which at different parts the pressure either diminishes or increases, so that we may know the direction in which the part of the head occupying these parts will tend to move.

The anterior wall, it will readily be observed, is inclined at an angle receding as it descends. The angle of inclina-

^{*} Leishman, p. 37.

tion is greatest at the symphysis, and steadily diminishes on either side until the perpendicular line is reached at f, which runs nearly parallel with the axis of the brim. This is seen in Fig. 2, which represents vertical sections of the walls at



the different points indicated by the letters. They are arranged as if seen in profile, and indicate comparatively both the inclination to, and distance from, the line of reference.

It will be observed in Figures 1 and 2, that the lines in the upper planes as they pass backwards, are further removed from the centre, but in the lower planes this relation is reversed. We can therefore divide the anterior wall into two portions, by a line on a level with the lower margin of the symphysis, and we find that in the superior division the distance from the

centre gradually increases as we pass backwards. Pressure therefore diminishes, and the tendency to movement will be in the same direction. In the lower division the condition is reversed; the distance, and therefore pressure, diminishes from behind forwards, and motion will take place in this direction. The same peculiarity exists in the sides, so that we can divide the whole pelvis into two portions, by a plane running obliquely from the lower margin of the symphysis to the lower margin of the posterior wall. In the superior division, the pressure diminishes from before backwards, in the lower from behind forwards. By the mechanical principle that motion occurs in the direction of least pressure, we can understand when a body such as the fœtal head occupies simultaneously both divisions, that whilst the lower portion is being pushed forwards, the upper part will at least be restrained from partaking in the forward move-

^{*} The distance between g and h has been made too great by the artist.

ment, if it is not at the same time made to pass backwards.

This peculiarity affords us a general view of the mechanism of rotation. The essential point is that the head by chin flexion should occupy an oblique position in the pelvis. If the longitudinal diameter is horizontal, then both ends are under the same influence, and the head moves in one direction as a whole. But a more exact demonstration can be obtained for the different obstetric positions of the head, and for the other movements which we have to examine.

It will facilitate the understanding of the subject, to cut in cardboard a section of the head as indicated by the dotted line, and lay it on Fig. 1, in the first obstetric position.

The half of the frontal bone which lies anteriorly, and the parietal bone situated posteriorly, first meet with the resistance of the ligamentous pelvis. The degree of chinflexion will determine which first receives the pressure. The chin-flexion is rarely complete, and if the os has been obliterated before the rupture of the membranes the head may descend exactly in the position it occupied at the brim—that is, without any increase of flexion. We may state therefore (I) pressure increases first upon the frontal bone, and further descent is accomplished by a movement of chin-flexion. But, looking at the plane which has increased the pressure, it is evident that it acts only on the anterior frontal bone, the posterior is yet free to descend. It is not until the latter has reached nearly two planes lower, or about half an inch, that the pressure on the anterior and posterior sides of the forehead are equalised. As regards the forehead, therefore, we have the initiation of the lateral rotation. As the direction of the pressure exerted by these planes is perpendicular to the outline at the point of contact, the resultant will be found very closely to correspond with the longitudinal diameter of the head. The effect will be an equal pressure against the anterior wall, and a tendency to move in the direction in which the long diameter lies. The pressure of the anterior wall, however, diminishes from above downwards. The upper portion of the anterior parietal bone will receive a greater pressure than the lower. Posteriorly the pressure is greater below. The

tendency to movement in the occipital end will therefore be that of lateral rotation, in the same direction as we have seen the fore-part rotates. This gives us the mechanism for the lateral rotation, a movement which continues simultaneously with that of chin-flexion, and afterwards of occipital rotation. If our views are correct, it will be observed that they are fatal to those of Kueneke regarding the continuance of the synclitic position during rotation; and support the views of Matthews Duncan, although he does not advance any mechanism but relies on clinical observation alone for their support.

As the head descends further, rotation forward of the occiput occurs. From the simultaneous convergence of the sides and of the posterior portion of the floor, the relation of the forehead to the different planes with which it is in contact will remain nearly the same; so we may state generally (2) that the resultant of the forces acting on the forehead corresponds closely with the long diameter of the head. If unrestrained, movement would take place in the direction in which this diameter lies. But there is restraint from the anterior wall and the sides or the floor, according to the plane which the occiput has reached. The posterior portion of the left parietal bone is the place where the lateral pressure will be greatest, and its direction will be the perpendicular to the outline of the plane at the point of contact. The parts of the head therefore at which the pressure first increases and continues greatest throughout the movement, are the anterior frontal and the posterior parietal bones. opinion is corroborated by the "shearings" which are met with on the head after labour.

The demonstration of the rotatory movement is now simple. With the cardboard section of the head lying as indicated, press with one finger on the forehead in the direction of the long axis; with a finger of the other hand make simultaneous pressure on the left parietal bone perpendicular to the outline of the successive planes, and the head will be found to make the required rotation.

The movement, however, requires closer examination in order that its real nature may be understood. Rotation does not take place until the occiput has reached the floor of the

pelvis. The forehead is still in contact with the opposite side. The head is under the influence of two forces, the one corresponding with the long axis and the other perpendicular to the planes of the floor. A common resultant of these two forces can be found. It will cross the plane of the head obliquely, and will run nearly parallel with the outline of the plane with which the anterior frontal bone is in contact. Restrained from moving directly forwards as a whole by the anterior wall, the head rotates by revolving on the anterior frontal bone. We have got the two parallel and opposite forces which constitute the couple—the common resultant acting in one direction, the friction of the plane with which the anterior front is in contact, acting in the other.

The head does not rotate on its vertical axis, as is sometimes stated. In the movement also the forehead does not rotate backwards; there is no room for it to do so, the frontal bone is already in contact with the posterior wall. It would also be incorrect to say that it rotates on the frontal bone as on a pivot. It is a rolling motion, together it may be with sliding, and the curves of the anterior wall and floor will be found to correspond with the curves, which would be generated by the occiput in the rolling movement of the head. The proper description of the movement in occipital rotation is, (3) the head, under the influence of the floor of the pelvis, rolls upon the anterior frontal bone in contact with the side of the pelvis, and the occiput is restrained to rotate forward by the curves of the anterior wall.

In occipito-posterior presentations the mechanism is the same, the relations of head and pelvis are alone altered. They have, however, some points of special interest. So soon as the head meets with the resistance of the pelvis, the pressure increases first on the anterior half of the head, and lateral rotation begins, as we saw in the previous case. The pressure of the posterior floor and the sides, exerted on the parietal bone, brings an equal pressure to bear on the frontal bone in contact with the anterior wall. The movement now depends upon the curves of the anterior wall at the place of contact. If the forehead occupies the superior division, pressure diminishes from before backwards, and movement in that direction may take place. If it has reached the

lower division, it must move forwards, a movement however which is soon arrested.

In any way the occiput can move forwards only by the rolling of the frontal bone against the anterior wall. The position of the forehead determines two things. whether a sliding motion will be combined with the rolling; and secondly, the radius of the curve generated by the occiput and its position in the pelvis. There is no difference in the mechanism whether the position is converted into an occipito-anterior, or the occiput sweeps the perineum; they are both rotation forwards of the occiput, but on different axes. A gliding motion can only take place under the conditions found in the superior division of the anterior wall, the forehead must be above the level of the lower margin of the pubes. The degree of gliding determines the curve generated by the occiput. The more readily the gliding occurs, the higher in the pelvis will be the planes through which the occiput passes; when no gliding occurs, and the deeper in the pelvis is the forehead, the more must the occiput be depressed and the larger will be the radius of the curve generated by the occiput.

We are now in a position to formulate the mechanism of occipital forward rotation, applicable to all the positions of the head. As the head meets with the resistance of the ligamentous pelvis, pressure first increases always upon the anterior frontal and the posterior parietal bones. directions of the pressures are contrary, but not directly opposed, a rotatory movement must therefore take place. The curves of the pelvis are so arranged as to admit only of rotation by the occiput moving forward. In performing this movement the head rolls, or rolls and glides, upon the anterior frontal bone, and the planes through which the occiput will pass are determined by the curves which it will generate in rolling of the forehead upon the pelvic wall. The larger the radius the deeper must the occiput be depressed. The radius is diminished in proportion as a gliding motion is combined with the rolling on the frontal bone. The combination is not essential, but its importance increases in proportion as the forehead is more anterior, and it takes

place in proportion to the height of the forehead above the occiput. The movement which occurs is a combination of chin-flexion, occipito-forward rotation, and lateral rotation.

ON THE AMPUTATION OF THE VAGINAL PORTION OF THE UTERUS.

By Louis Henry, M.D.

LOOKING back into the medical parchments of the past, we find the first proposal and recommendations to cure diseased ulcerative processes of the cervix uteri by amputation, in the writings of Ambrosius Paré, the celebrated French surgeon of the sixteenth century. Continuing in our historic researches, we find that Nicolaus Tulpius had successfully excised a cancerous cervix, and that in the years 1780 Lauvariol, in 1787 Wrisberg, and Monteggia in 1788, each performed this operation, but with doubtful results. Ossiander, of Göttingen, was the first to perform this operation in situ on a carcinomatous cervix in 1801. He afterwards treated twenty-three cases of cancer of the cervix successfully in the same way. Rust, of Vienna, repeated the operation after Ossiander's method in 1813, but this case terminated fatally. Coming nearer the present times, the operation was cultivated in France by Lisfranc, Dupuytren, Récamier, and Amussat; in Germany by Graefe, Siebold, and Kilian.

One of Ossiander's operations is described to us by an eye-witness as follows:

"A carcinomatous cervix, about the size of a child's head, completely filled the vagina. It stank extremely, and bled profusely. The fungus was drawn down deep into the vagina by a pair of Smellie's obstetric forceps, which, however, pulled off the fungus, and the bleeding became intense. Ossiander, with great presence of mind, ran threaded needles through the upper part of the vagina and cervix from all sides, and was then able to pull down the cervix deep into the vagina. He then seized a Pott's bistoury and amputated above the scirrhous part. The bleeding yielded to styptics."

Notwithstanding the reported successes of Ossiander, a great opposition sprang up in Germany against this mode of treatment, no doubt partly incited by the boldness and novelty of the operation, and partly by the exaggerated ideas of its dangers. In addition to this, the method of examination and the technic of operating on the female genital parts were of such a primitive nature that a radical, or even palliative success was rarely obtained, so that the excision of the cervix was with difficulty decided upon.

To Lisfranc the honour is principally due of achieving for this operation its proper acknowledgment, and convincing a large number of his colleagues how free from danger this operation can be. Lisfranc recognised only the carcinomatous degeneration as an indication for excision; but at the same time he was quite unacquainted with other forms of disease of the cervix which render a differential diagnosis somewhat difficult. He too often confounded chronic inflammation which produces induration with the malignant disease it simulates. As his experience increased, he was able to avoid his former mistakes. Dr. Mott. the American surgeon, relates in his book, "Travels in Europe and in the East," that in 1842, while going through the wards with Lisfranc, the French surgeon drew his attention to a number of patients who were suffering from a "peculiar and unhappy disease," and mentioned that in former years he had performed more than sixty amputations of the vaginal portion for the same disease, but that now he was able to combat with it successfully by the application of the nitrate of silver.

There are great difficulties connected with the differential diagnosis between a malignant and benign affection of the cervix. Mistakes are even now daily occurring, and I have had frequent opportunities of seeing patients sent to hospital for operative treatment who were merely suffering from chronic inflammatory processes. It is easy to be deceived concerning a deeply seated disease in an organ of such a tense texture as the uterus, and even after recognising the disease it is equally difficult to discern the line of demarcation. In distinguishing the inflammation from the more

serious disease, and where ulceration has not commenced, we find in the malignant cases the cervix enlarged, firm, and immovable, irregular and puckered, the surrounding cellular tissue often hard and indurated, and infiltrated with the spreading cancerous deposits. In simple inflammation, the induration which is felt is simply due to the congestion and swelling in the organ. The cervix remains movable, and the os is often dilated. Ulceration may follow in both cases. The cancerous ulcer is mostly an excoriating one, being depressed, and eating the part out, as it were. Its base and surroundings are hard and indurated, while the odour of the pus is severely penetrating. Of course, these pathological changes must vary, according to the nature of the cancer it may happen to be. The ulcers due to chronic inflammation, on the other hand, are generally even with the tissues they have formed on, or are somewhat elevated, and secrete a healthy pus.

The principle of Lisfranc's operative method was to produce an artificial prolapsus uteri before amputating. His reasons were that it was easier to view the extent of the disease, and the operator was not confined to a limited space, besides avoiding all complicated instruments. In those cases, however, where the uterus could not be pulled down on account of adhesions, or where the softness of the degenerated parts prevented the vulsellum from being applied, he was compelled to operate in situ. Most ingenious instruments were invented to overcome this difficulty; as, for example, one that could be inserted into the cervical canal, and on touching a spring a number of sharp hooks buried themselves into the neck. Another consisted of a large glass cylinder, the front opening of which was closed by a part of the cervix; the air was then extracted from the tube, and then traction applied.

Lisfranc proceeded in the following manner:—After the bladder and rectum had been properly emptied, the patient was placed in the lithotomy position, and a bivalve speculum introduced into the vagina. Two vulsella were then applied to diametrically opposite sides of the cervix, and after the speculum had been withdrawn, gentle tractions in the di-

rection of the axis of the pelvis were made with the vulsella, and the diseased cervix forcibly dragged down towards the This process usually takes from about five to fifteen minutes, and in a woman with large pelvis and loose parts is very easily accomplished. An assistant now seized hold of the handles of the vulsella, while the operator divided the cervix above the degenerated parts, paying careful attention to the insertion of the vagina, with either a pair of curved scissors or concave bistoury. In those cases where the tumour was so large that it was impossible to introduce the speculum, the tenaculum was guided up to the parts by the finger. Lisfranc observes that although the uterus is so very sensitive to pressure, the pain produced by cutting instruments is so insignificant that it is very often not felt at all. If the tractions which were made to produce the prolapsus caused much pain, or if he feared that, on account of its great resistance, peritonitis might ensue, he invariably operated with the curved scissors in situ, and under guidance of the fingers. In some of his cases where the tumour was very voluminous, he was compelled to divide the perineum.

The after-treatment of this operation, Lisfranc considers particularly important. He considered it a necessity that a certain amount of blood should flow, for he says that they who tamponade on account of dread of hæmorrhage, often bring on a metritis or a fatal peritonitis. In those patients who were not too weakened before or during the operation, he permitted from sixteen to twenty-four ounces of blood to flow, adding in explanation, that the tampon is then often unnecessary. Suppression of hæmorrhage, he continues, often causes severe pelvic pains, which are to be treated with warm injections, cataplasms, or venesection. The last method he holds especially applicable to stop exhausting capillary bleeding. As soon as hæmorrhage has ceased, the blood clots are washed out of the vagina. The cicatrisation of the wound is very slow, taking about eight weeks till it is complete, because the cicatrix does not become linear, but assumes a certain breadth.

Pauly, who criticises Lisfranc's operations very severely, asserts that out of nineteen patients treated in the above

manner by Lisfranc, four died within twenty-four hours, and out of nine patients who were operated upon in his presence, six were attacked with severe hæmorrhage, three of whom died during the following day.

Lisfranc performed the amputation of the vaginal portion altogether ninety-nine times. Out of this number fifteen died, and eighty-four were cured without relapse. Among the fatal cases are contained those who succumbed to a return of the disease. These numbers are, I am sorry to say, not reliable in regard to the cure of cancer, for as I have stated above, he made frequent errors in diagnosis, which he himself confesses, but I think they may be fully believed as far as the success of the operation is concerned.

A physiological fact of great importance which Lisfranc alludes to is, that after the operation, the uterus retains its susceptibility for conception and expulsion of the fœtus at full time. In nine cases he saw pregnancy continue smoothly till full period, and only observed one of premature labour.

Siebold represented the teachings of Lisfranc in Germany, and willingly propagated the successful results of the operation. He confined the operation to the following indications:

- I. If the disease is localised.
- 2. If the disease has not penetrated into the lymphatic system, the neighbouring glands are not indurated, and the cancerous matter not reabsorbed.
- 3. If the localised disease is still in the first stages of scirrhus.
- 4. If the cancerous cachexia has not got such a hold of the patient that it might be feared that the weakened constitution would not bear the shock of the operation.

In pace with the advance of gynæcological knowledge and experience, the indications for amputation of the cervix increased. In certain cases of hypertrophy of the vaginal portion, one soon became convinced, that all the different internally and locally applied pharmaceutical remedies were of no avail. Hypertrophy of the portio vaginalis may appear as a continuous lengthening of the cervix, or merely as an elongation of one lip, the enlarged parts protruding sometimes into the vagina or from the vulva as cones or polypous tu-

mours, so-called conoid, trunciform, or polypous elongations. Hypertrophy of the cervix appears mostly on the anterior lip, forming a knotty tumour, possessing a great amount of vascularity. Sexual intercourse becomes difficult, painful, or impossible, while the patient suffers severely from hæmorrhage, or a profuse mucous secretion. Ulcerations soon form on the surface, every movement of the body creates intense pains which extend into the sacral, lumbar, and inguinal regions, and are not rarely associated with burdensome nervous symptoms. Besides these, there may be other diseased conditions which determine the amputation of the vaginal portion as the quickest and surest remedy.

What I have just dwelt upon was first recognised by Kiwisch, but it was Sir James Simpson who gave these facts a wider circulation. It was not until 1840 that Simpson made the first amputation in England, although Warren had performed it in Boston in 1829.

The first patient whom Simpson operated on was a woman who had been married about thirteen years, and had during this period five healthy children and one miscarriage. May, 1840, she suffered from a profuse hæmorrhage, and became exceedingly anæmic, so that she was compelled to keep her bed. Simpson, who examined her about this time, discovered a tumour about the size of a common pear adherent to the posterior lip. The surface felt uneven, rough, and granulated. At every attempt to make a more careful examination the bleeding came on again. On examining with the speculum, the tumour showed an irregular appearance, and had a pale strawberry colour. Towards the end of May the operation was conducted in the following manner:-The patient was placed on her abdomen, with her face downwards, and laid crossways over the bed, while the lower extremities were allowed to hang down, as in the operation for hæmorrhoids. Simpson chose this position for operating on in the greater number of his earlier cases, asserting that to cut across the cervix from behind forwards there was less danger in wounding the posterior cul-de-sac and lacerating the peritoneum, which reaches lower down posteriorly to the uterus than it does in front between the

uterus and bladder. The uterus was dragged down towards the vulva by vulsella which had been inserted into the neck. A pair of strong curved scissors were then used for amputating the diseased part. Latterly Simpson abandoned Lisfranc's method, and confined himself to the écraseur, which I believe was first used in England for this operation by Spencer Wells. In the above operation there was little bleeding, and the patient soon found herself so much better that she was able to resume her former occupation. This patient remained healthy eighteen years after the operation, giving birth to five strong children. The microscopical examination of the extirpated tumour proved it to be an epithelioma.

The second case was a widow of forty years, who had been married eleven years, and was mother of five children. This patient had been suffering severely from leucorrhea for a long time. The discharge had always been profuse, but had also become acrid. A great deal of hæmorrhage had been going on, which no amount of plugging and no kind of astringent or cold applications seemed able to arrest. Though naturally a strong and robust woman, she was in consequence soon reduced to such an extreme state of weakness and exhaustion that she required to be lifted with her sheets when they ventured from time to time to get her bed made dry, and she became sick and faint whenever it was attempted to raise her head. On making a physical examination, the posterior lip was found enlarged, indurated, and roughened, while the surface of both lips was the seat of irregular ulcerations. The base of the cervix appeared to be sound, and he therefore excised the whole of the neck, making the incision through the healthy tissue. The bleeding was quickly stopped by balls of cotton wool, dipped in perchloride of iron and applied to the wound. The further examination of the excised parts proved the tumour to be what Simpson calls a carcinoma fasciculatum. The patient quickly recovered, and after a fortnight was able to sit up. Her menses returned again after an interval of two months, and she died four years afterwards of an attack of dysentery. Simpson recommends this operation most warmly, as the only possible cure for cancer of the cervix, adding that if it does not eradicate the disease, it often stays its progress for a time, so that in many cases which come under treatment the patients live four and five years after the operation.

The following statistics are also borrowed from Simpson: From the years 1847 to 1861 not less than 61,715 females died of cancer in England alone. Of these, 25,000 were cancers of the uterus, more than one-third of all cases of cancer in the female being instances of cancer of the uterus.

With these tremendous numbers before us, their powerful influence almost makes us despair of the profession we have embraced. Our therapeutics have made but little progress in this malignant affection. We have naught but caustics, escharotics, and the knife. A present author has lately "proposed the subcutaneous injection of chromic acid," or some other hardening and contracting agency, to be subcutaneously applied either above or at the seat of the disease, so that the constricted tissues and hardened cells will prevent the further absorption and infiltration of the cancerous material. Its efficacy has, however, not yet been proven. The French have a saying which, translated, means that if a cancer has been eradicated, then it was no cancer, for its incurability is pathognomonic of the disease. physician in practice has, no doubt, often confirmed the hereditary tendency this disease has, and some even go so far as to assert its being contagious. I remember two maiden sisters who succumbed to the disease, one affected in the liver, the other in the womb, while shortly after their deaths the servant girl, who had been in their employment many years, died of cancer of the stomach. Another case, which at the time produced an impression upon me, was that of a married man who presented himself at the hospital with cancer of the penis, which was operated upon. Three weeks afterwards his wife requested to be examined, and it was found that she was suffering from cancer of the cervix. Both these cases I must at present regard as being mere coincidences.

About twenty years after Simpson's cases had become known Scanzoni published the results of a number of ampu-

tations of the cervix uteri which he had performed, and at the same time draws attention to a new instrument which he tried and subsequently recommends. This is the tonsillotome, but which Scanzoni applies to excise, with one pull, either a hypertrophic elongated lip or those small tumours adherent to the cervix. Sims's utero-guillotine is nothing more than a modification of this, and he only hits on the idea of constructing an instrument for amputating the cervix with one stroke, like that used for the tonsils, five years after the publication of Scanzoni's cases.

Scanzoni publishes the reports of sixteen cases, wherein he used for amputation the curved scissors nine times, the galvano-cautery three times, while after trying the chain écraseur twice without accomplishing his purpose, he was compelled to resort to the scissors. The history of the first case treated with the tonsillotome is the usual one of cancer of the cervix. The amputation was performed in situ by slipping the diseased and enlarged anterior lip into the ring of the tonsillotome, and cutting it through. The hæmorrhage was very small, and stopped entirely on the application of the usual styptics. The microscopic examination of the amputated tumour proved it to consist of a highly vascular and fibrous stroma, embedded in which were a large number of cells arranged in the form of glandular acini. The cells were flat, angular, jagged, and condensed. In those parts resembling acini the external cells stood in a vertical position, while the more central were formed into irregular layers. At certain parts they appeared to lie in a more concentric position towards one another, and to form so-called nests. The character of this tumour was, therefore, that of an epithelioma. Six days after this operation the menses returned, and about fourteen days after the operation the patient was allowed to return home. The second application of the tonsillotome was in a case of hypertrophic elongation of the cervix. Here the patient was able to leave her bed five days after the operation

The selection of instruments for the carrying out of our operation increased with the progress in surgical knowledge and the advanced demands on mechanical inventions. Ope-

rators become soon convinced that blood was the essence of life, the saving of which was to be one of the greatest efforts of the surgeon. Thus originated the ligature, the écraseur, the constricteur, the galvano, thermo, and actual cautery, and Esmarch's bandage, modes of which I return to further on.

The after-treatment of our operation had so far confined itself, after the amputation, to stop the bleeding alone, and to permit the wounded surface to heal by the process of granulation. The small and larger arteries, which always spurt after being divided, cannot be isolated and tied in the rigid tissue of the uterus; so hæmorrhage had to be stopped by means of styptics, ferrum candens, or the tampon, methods which are sometimes more dangerous than the bleeding. The throwing off of the eschar formed by the hot iron is connected with intense purulent discharge, while the use of the tampon often causes the decomposition of the secretions of the wound, besides preventing a free exit. In both cases it may come to a putrid degeneration of thrombi, which are so often widely disseminated, and subsequently to a well pronounced pyæmia. The hot iron does not always guard against secondary bleeding; while, on the other hand, a very energetic and repeated tamponade by mechanical means alone may lead to a parametritis. The healing of the wound ensues in these cases but very slowly, after long-continued suppuration, whereby the subsequent contractions of the cicatrix very often produces stenosis or atresia of the cervical canal. These disadvantages may be avoided by the suture, the best hæmostatic surgery has yet invented. Marion Sims was the first to use it for this operation, and give the first impulse to subsequent modifications. When the "Uterine Surgery" of Sims first made its appearance it struck so many of our younger and aspiring gynæcologists with its new methods of treatment, and the repeated assurances of its wonderful successes, that they gladly yielded to the hope that they might be able to cure a great number of uterine diseases which had, until then, been beyond their powers. Those very encouraging histories of operations which Sims counts up in his work are, no doubt, the unfortunate cause of a great number of sanguinary operations which would otherwise not have been attempted. And it appears questionable

whether any one else has performed those operations with the same results that Sims claims to have achieved. Subjecting this work to a sober and impartial critique depresses, firstly, the high expectations of the new methods introduced into surgery; secondly, draws our attention to the one-sidedness in which Sims seems to have comprehended the pathology of sterility; while, thirdly, it cannot escape us in what a superficial manner he treats the statistics of his own operations.

Sims usually operated by dividing the cervix bilaterally up to the vaginal insertion with a pair of scissors, and then amputating but one lip, and not operating on the other till the first wound had healed. In 1859 he follows another plan, wherein he first uses a suture. A patient was sent to him to have her cervix amputated, and for this purpose was placed on the table in the semi-prone position, her legs well drawn up. A tenaculum was hooked into the anterior lip, the cervix pulled forward, and then divided bilaterally nearly up to the insertion of the vagina, with a pair of scissors. Each lip was then alternately cut off. After the completion of this, it suddenly occurs to him to close the wound by joining its borders together in the same way as the stump of an amputated extremity is covered by skin after the circular method. Two silver sutures are at once passed on each side of the cervical canal, through the incised edges of the vaginal mucous membrane antero-posteriorly, and the parts drawn together, covering the wound completely, but leaving a small opening in the centre, corresponding with that of the cervical canal. In the present case the parts are asserted to have healed by first intention. The sutures were removed in ten days, and the patient soon discharged. In looking on his own cases Sims acknowledges that there is always some contraction of the os externum after all amputations of the cervix

Particular attention has been drawn of late to the great defectiveness of Sims' suture, and special importance applied to the fact that it answers its purpose but very ineffectually. For if vaginal membrane is united with vaginal membrane, a large hollow or sinus is formed behind the line of union, in which blood coagula can easily collect, and so disturb the prima intentio. Besides this, the suture is not sufficient pro-

tection against hæmorrhage, as the blood can easily run, without any obstruction, out of the ununited parts of the wound, and through the os externum, or, if it collects, may give rise to symptoms which necessitate the division of the sutures. In addition to this, we have the great tendency to cicatricial constriction of the os, which, especially in conoid elongated uterus, as an alleged cause of sterility, hardly alters the condition after the operation.

To Hegar, of Freiburg, the merit is due of having removed the deficiencies of Sims's suture by substituting a deep penetrating parenchymatous suture, by which secondary hæmorrhage is mostly avoided. This suture acts by a compression of all the bleeding vessels, and also avoids the formation of a sac behind the sutures, while the cervical canal at its lower part remains dilated—a circumstance of great importance in a case of existing sterility. Hegar accomplishes this by running his sutures so that they form the radii of a circle, the centrum of which lies in the cervical canal. The sutures are carried deep under the wound from the vagina to the cervix. In the centre of the wound the vaginal mucosa is sewn together with the cervical mucosa, posteriorly and anteriorly, while only at the sides, when the canal does not gape sufficiently, vaginal arch or roof is united with vaginal arch. Every needle is pushed out in the middle of the wound surface which is to be covered, and immediately adjoining to it pointed in again towards the cervical canal, so that the edges of the mucous membranes which are to be connected may join intimately together.

The following statistics of ninety-nine cases of Hegar may serve to illustrate his successes in amputation of the vaginal portion. The indication in fifteen was carcinoma; in eleven cases, torpid papillary ulcerations around the os; twenty-five times circular hypertrophy of the vaginal portion; seventeen times prolapsus uteri, with mostly subsequent colpoperineorhaphy after an interval of fourteen days; and lastly, thirty-one times conoid elongated cervix, with stenosis of the orificium externum or the whole cervix. In cases of cancer and prolapsus the supra-vaginal part of the cervix was occasionally extirpated by a funnel-shaped excision. Almost all these operations were performed with knife and scissors.

The tonsillotome was used four times; the écraseur, which was tried four times, only acted once satisfactorily; and the galvano-cautery would not answer in the only case it was tried. With the exception of the cases of prolapsus, most of the operations were carried out in the semi-prone position.

What induced Hegar to perform the amputation in prolapsus depended, I presume, on the following explanation, but that I can only suggest. The prolapse of the vagina and the relaxation of the vaginal walls produce a dragging downwards, which elongates the uterine lips, and incites them to hypertrophy. This occurs particularly if the uterus is prevented from following the weight from below, on account of being pathologically fixed in its place. If, on the other hand, the connexions of the uterus with the neighbouring parts are relaxed, a real prolapsus uteri may originate. have no doubt that the causes which influence a prolapsus may, at the same time, bring about a relaxation of the surroundings of the uterus and the vagina, so that, at the same time and for the same reasons that the vagina prolapses, the uterus descends deeper. In meditating a radical cure, two evils have to be removed—not only the relaxed vagina, but also the hypertrophic lips. By amputation of the hypertrophic parts a decrease in the weight and the pulling down is aimed at; and besides this, it has been microscopically confirmed that the whole hypertrophic parenchyma of the uterus undergoes an involution similar to the puerperal, and thereby experiences a most active diminution. The subsequent colpoperineorhaphy removes the looseness of the vaginal walls.

Scanzoni considers the occurrence of hypertrophy of the vaginal portion at the same time with prolapsus as so extremely rare, that he has never met with it in his extensive practice, or seen it in the large collection of the Pathological Institution of Würzburg. He thinks that the apparent hypertrophy of the cervix consists of a thickening of the inverted vaginal walls, and draws attention to the dangers which an excision of these parts would bring with it, pointing out also that peritoneal folds project with the bladder in front, with the rectum behind, deep into the prolapsus.

As I have not been able to gain access to the particulars

of those cases of prolapsus which Hegar, and afterwards Spiegelberg, operated upon, I can only refer to my own explanations, adding that very probably the cases of prolapsus suitable for operation may consist in but a slight inversion of the vagina, with an hypertrophic elongated vaginal portion, or that the elongated cervix uteri has been mistaken for a prolapsus.

Hypertrophic elongations without prolapsus are common enough, and the following case, which was shown to me at St. Bartholomew's by Godson, is, I think, unique and very instructive:—

A patient, who had been suffering for some time from pains in the abdomen, declared herself to have lost an excessive amount of blood while evacuating her bowels, and to have felt the passing away of a large body. On examination per vaginam, a large tense body, filling out the vagina and extending as far as the vulva, was felt, and regarded as the inverted uterus. The history of the case misleading to the idea of a recent miscarriage, an anæsthetic was administered to the patient, and fruitless attempts made to reinvert the uterus. As the patient gradually came to, Godson passed his hand over the place where, under normal circumstances, the fundus uteri might be expected to be felt, and, to his astonishment, felt the well-known touch. On making a more careful and minute exploratory examination, the os externum could be discovered in the tumour, permitting a sound to pass up to its full length. The tumour itself was soon found to be an enormously elongated hypertrophic cervix. The tumour was extirpated in the way Godson usually proceeds in amputating the cervix, by pushing the cervix forcibly upwards, so that the vaginal arch becomes stretched, and the line of the vaginal insertion more clearly defined. The object in doing this is to avoid cutting into the peritoneal pouches; for in pushing the uterus upwards, the peritoneal covering rises as well; so that the distance between the vaginal insertion and the peritoneal folds is considerably enlarged. may easily be done with the staff of the wire écraseur, constricting at the same time.

I must return to say a few words on the results of Hegar's operations. In seventy-one out of the ninety-nine cases, the

sutures were inserted as I have just described, and in these cases secondary hæmorrhage occurred five times. In the other cases where no suture was used, the hot iron was applied thirteen times to stop the capillary bleeding. In one of these cases, a fatal peritonitis set in. Of the cancerous patients it was proved that one was living three and a half vears after the operation. In the rest the disease returned; but they declared that their sufferings had been greatly alleviated by the operation. In prolapsus the amputation alone sufficed in four cases. In the other ones colpoperineorhaphy was performed after fourteen days. Of thirtyone patients with conoid elongated cervix, twenty-four were sterile, and of these but two conceived after the operation. The dysmenorrhœa recurred very often after the cicatricial constriction. In fixing the uterus Hegar uses his bullet forceps, which he inserts into the cervix. Noeggerath's forceps, which are on the same principle, have tenaculum hooks, and may be used with equal advantage.

Spiegelberg, of Breslau, has published a report of sixty cases operated on by him. He strongly recommends operating in the lithotomy position, for he asserts that it is easier to narcotise in, the descent of the uterus is assisted, and the entrance of air into the abdominal cavity after cutting into the peritoneum is less to be feared. Five cases out of the sixty terminated fatally; one of these in consequence of incising into the posterior peritoneal pouch on account of dragging down the posterior lips too severely, and accession of air and blood into the abdominal cavity. Similar accidents have happened to the most experienced operators; I need only mention such names as Simpson, Simon, Duncan, and Sims. The latter, after using the écraseur, was able to observe the movements of the viscera with every respiratory act. Schroeder describes an interesting case, where, after amputating a hypertrophic cervix which he had previously dragged down almost to the vulva, in a patient who had borne eight times and had two miscarriages, his finger was able to penetrate into a cavity in front of the uterus of such a magnitude that he at first feared he had cut into the bladder. After introducing the catheter, the thin walls of the bladder were found intervening between his finger and

the catheter. Schroeder attributes this accident to the fact that the inversion of the vagina was largely exaggerated by the dragging down, and that in consequence he had excised so high in front as to open the vaginal arch. With the exception of a little hæmorrhage, which soon yielded, this case ended so well that about a year afterwards the patient was again pregnant.

Accidents of this sort must be extremely annoying, but we happily find that the greater number of them have a tendency to heal. Should the line of inversion be not clearly distinct, or the well-known furrow which separates the vaginal portion from the vaginal arch not be clearly visible, pushing the uterus upwards will quickly bring this into prominence. I should also strongly advise making a superficial circular incision through the mucosa immediately below these landmarks before permitting the knife to excise.

The second death out of the five I have just alluded to was due to pelvi-peritonitis and secondary hæmorrhage, after amputation by the galvano-cautery and dragging down the uterus in disease of cancer. The third, in consequence of shock, after an operation performed in Simpson's position with galvano-cautery in inflammatory hyperplasia. The fourth, on account of frequent hæmorrhages, tamponade, and pelvic phlegmon after incision with the knife in carcinoma. The fifth, caused by septicæmia after excision by the galvano-cautery in polypoid elongation. The following table gives a good view of Spiegelberg's operations, the modes of operating, and their indications:—

Operations.	Bloody with- out suture,	Bloody with Sims's suture.	Bloody with Hegar's suture.	With écraseur.	With galvano- caustic loop.
22 times in cancer	7 times — " — " — " — " 8 times	times	times ,, 1 ,, ,, 2 ,, 3 times	- times - ,, 2 ,, 2 ,, - ,, 4 times	15 times 6 ,, 1 ,, 6 ,, 11 ,, 39 times

Spiegelberg is a very warm supporter of Middledorpf's galvano-cautery, which, he asserts, prevents the parenchymatous bleeding. Notwithstanding the asserted superiority of this apparatus, he had to return to the knife in four attempts with the instruments, on account of something getting out of order, and he complains of frequent attacks of secondary hæmorrhage during the throwing off of the scab.

The greatest objection to the galvano-cautery has been the mechanical technic, which requires a thorough knowledge of the construction of the apparatus and the laws which govern the action of the currents. This frequently necessitates the attendance of an expert. From a medico-chirurgical point of view, it has been pointed out that its application is followed by wearisome suppuration and cicatricial constriction, producing atresia or stenosis of the cervical canal.

Spiegelberg, who applies the loop in the following manner, draws particular attention to the fact that if success should attend the operation in cancerous patients, the excisions should be conducted at least a quarter of an inch above the margin of the disease. The platinum loop is run over the parts to be amputated, and pushed up to the desired height. (This may be done either in situ or on the artificial prolapsus.) The wire is now slowly heated. At first, in order to embed the wire, the loop is quickly tightened. This may also be achieved by applying the cautery knife to the desired part of excision, and afterwards placing the loop in the grooved circle. The further division must be carried on very slowly, particularly if it is intended to guard against bleeding. The strength of the current must not be too strong, as the loop may become too hot and easily snap. Should the operation be carried on without any anæsthetic, and the patient complain of a feeling of great heat in the vagina, the parts may be cooled and washed out by an irrigator from time to time, without interrupting the current. If the cancerous infiltration has extended so high up that it is not possible to excise all the diseased parts, the curette may be used with advantage, scooping out under guidance of the finger, and afterwards applying the porcelain

button of the galvano-cautery, or the flat head of the thermo-cautery, freely to the bleeding surfaces.

One of the principal advocates of this method of treatment in the United States is Byrne, of New York, whose wonderful results in the radical cure of cancer of the cervix and body of uterus I must say are nothing less than extraordinary. Why it is that the successes of our American colleagues should be so far superior to anything we have achieved in Europe, I confess I am at a loss to understand. Byrne has been very straightforward in acknowledging some few cases of very severe cicatricial constriction, which, however, he regards as exceptions. One of these cases, supposed to be a cancerous cervix, was amputated by galvano-cautery. Three months afterwards severe dysmenorrhœal pains set in at the menstrual period. An attempt was made to pass a probe into the cavity of the uterus, and it was found impossible to penetrate much deeper than the internal os. The patient withdrew herself out of the treatment of Byrne, and afterwards prosecuted him for alleged mal-practice, estimating her sufferings, &c., at 5000l. The case was nonsuited.

A more interesting case was that of a married woman, aged twenty-eight, who had always suffered from dysmenorrhœa, and was sterile. The cervix was found to be indurated, voluminous, and covered with prolific granulations. It seemed difficult to make a differential diagnosis between inflammatory processes or carcinoma. It was deemed advisable, however, to amputate with the galvano-cautery. About ten weeks after the operation her third period, which set in, was "accompanied throughout with dysmenorrhœal symptoms of a more acute and distressing character than at any previous period, even before operation." On making a digital examination the vaginal canal was found constricted at its upper third, hardly admitting the index finger, and bands of dense cicatricial tissue divided the vaginal canal transversely. A very small probe succeeded in passing the cervical canal. This patient also withdrew herself from Byrne's further treatment, and died three years and a half subsequently, of peritonitis. The post-mortem showed the uterus to be "much larger than normal, and its interior divided into two cavities." The os externum was greatly constricted, so as to admit with difficulty a very thin probe.

A question of vast importance, which I have until now paid no attention to, is the admissibility of our operation during pregnancy. In cases of approaching labour, where a hypertrophy or a carcinomatous induration, &c., acts as an obstruction, we are compelled to take a deep interest in any treatment which promises to remedy the evil, and lessen the dangers to mother and child. If we find in a pregnant patient a circumscribed cancer of the anterior or posterior cervical lips, which permits of operating in healthy tissue, or a cauliflower excrescence, or a hypertrophic lip which causes inconvenience and alarm by its size, profuse bleeding or compression of the rectum, or pressure on the bladder, then the only methods of treatment remain in the removal of the tumour with the diseased lip, or if childbirth surprises us, in performing the sectio Cæsaria. Among five cases in which amputation has been performed under these circumstances, premature labour was brought on but twice.

It has been lately proposed, in the amputation of the hypertrophic vaginal portion, to make use of a sort of Esmarch. The uterus is prolapsed, and two long needles are run through the cervix above the line of amputation, while immediately above this an india-rubber tube is tied round the part. While the needles prevent the slipping down of the tube, and the ascension of the uterus, the elastic constriction permits the amputation to be carried on in a bloodless manner.

In reviewing the different methods of operating, it is very difficult to grant to each of those operators who confine themselves to one mode its sought-for superiority. One praises the old method with the curved scissors, and points to the advantages derived from the hæmorrhoidal position; a second recommends the use of the chain écraseur, condemns the last position, and only operates in the side position; the third considers Maisonneuve's wire constricteur, the fourth the galvano-cautery, as the only reliable instrument, and operates only in the lithotomy or in the semi-prone position.

Next comes the propriety of using sutures after Sims or Hegar, operating by the bloody or bloodless method, pulling down the uterus or pushing it up. An impartial examination of all these methods brings us to the conclusion that neither one nor the other will answer for all cases, and that it will be most advisable every time, and after careful examination and exact knowledge of the conditions, to choose that method which best answers to the peculiarities of the special case.

If we compare the advantages of our operation with its dangers, which can hardly fall in the balance, we must recognise in it one of the most humane and successful of operations. It places in our power the possibility to alleviate the sufferings, and diminish the distress and misery of so many of our unfortunate patients. If in some of the diseases, as cancer, we get the chance to operate early, we may expect to be as successful as in the other indications for our operation, and perform a radical cure. Should we not always succeed in this, we check at least those profuse discharges which tend so quickly to undermine the system; we may prevent the absorption of emboli and avoid the introduction of the so-called cancerous diathesis, and prevent septicæmic infection. And even for this amelioration the greater number of our patients will only be too thankful.

Reports of Mospital Practice.

A CASE OCCURRING IN THE OUT-DOOR PRACTICE OF THE GLASGOW MATERNITY HOSPITAL.

By R. DENHAM PINNOCK, M.B. et Ch.M., Beaufort, Victoria, Australia.

THIS case came under my notice whilst house-surgeon to the above institution. The notes were taken at the time. and the hope that they may interest some of your readers induces me to forward them.

On Sunday morning, the 10th August, 1873, a student

of the hospital was called to deliver Isabella C. This was her second confinement. She was married on the 1st January, 1871, and was at the above date twenty-two years of age. Her first confinement was normal, and the child (male) continued quite healthy to the age of six months, when it died from inflammation of the brain, according to the mother's statement. The patient has enjoyed good health all her life, and has a good family history, as has also her husband, who is a healthy-looking middle-aged man. She had not met with any accident or encountered any shock whilst carrying the child.

On his arrival the student found a female child already born, and the placenta away. The labour was very short. The first stage commenced about three A.M., and the child was born at six A.M. No information regarding the length of the stages could be gathered from the patient, as she persisted in affirming that the pains were all of the same nature throughout. She was unattended during the birth; so nothing can be affirmed regarding the presentation. The placenta and membranes were entire and healthy looking, but the former was very large, weighing two and a half pounds. The cord was of ordinary thickness, and twentytwo inches in length. The child was a miserable looking creature, sixteen inches in length, and weighing four and a half pounds. The limbs were shrivelled and wasted, and the face wore a marked expression of pain. The nails projected beyond the points of the fingers, the papillary membrane was gone, and the head was well covered with hair. The mother, however, insisted that the child was premature, and stated that she menstruated regularly up to the 16th December, 1872, that being the date of the last discharge. Dating from a week after this (as she observed no alteration in the last menstruation), labour would not be due until about the 28th September, which would make the child premature, and barely eight months.

On examining the child, it was found that from the umbilical aperture, immediately to the right of the umbilicus, a large body of intestines protruded, measuring six inches in length and four inches in breadth. These viscera were

unprotected by any description of sac. They were of a dark brownish-red colour, firm and elastic to the touch, and distended with fluid which could be pressed from one convolution to another. On turning the mass about and carefully tracing the convolutions, a very marked resemblance to the normal course and appearance of the small intestines, cæcum, and part of ascending colon (all much distended) could be recognised. The appendix vermiformis of the cæcum was especially very distinct. The abdomen was very much depressed, and apparently emptied of part of its contents, for the anterior wall could be pressed against the posterior with little difficulty.

The child lived for twenty-six hours, during which time it seemed in much pain, and was vomiting matter resembling fæces. The protruding viscera could not be returned, on account of their great distension and the constriction at the umbilical aperture, and the parents would not allow any operative interference. The child was seen by several medical gentlemen on the day of its birth, and there were doubts expressed as to whether the protrusion formed part of the proper intestines of the child or an additional set. As the parents would not allow a post-mortem, this point unfortunately remains undecided. The former view, however, seems favoured by the marked resemblance of the convolutions to the normal viscera, the great pain the child appeared to suffer, and the vomiting of fæculent matter.

Notices and Reviews of Books.

A Handbook of Uterine Therapeutics and of Diseases of Women. By Edward John Tilt, M.D. Fourth edition. J. and A. Churchill, 1878. Pp. 472.

THE fourth edition of Dr. Tilt's work not only comprises a considerable amount of additional matter, involving a notable addition to its bulk, but many of the chapters have been in great measure rewritten, and all the modern theories, im-

provements, or suggestions for treatment in gynæcology will be found fully discussed. In its present form the book affords a very complete compendium of the medical side of uterine therapeutics. The marked stamp of the author's individuality, and the rich results of his personal experience, which formed much of the value of the former editions, are still more prominent in the present one. While this quality may detract from a perfect balance of impartiality in the views expressed, it adds greatly to the readable character of the book, and no one will find in it any of the tedium which is apt to attach to condensed textbooks or compilations.

The author, in his preface, deprecates a too exclusive regard in gynæcological therapeutics to medical treatment alone, to the use of the knife, or to uterine orthopædy, and sets before himself the judicious object of determining the proper scope and relative value of drugs, of the knife, and of pessaries. It may be questioned, however, whether he does not himself fall into as great exaggeration of his favourite view of pathology as those whom he severely criticises for too frequently slitting up the cervix, or for overrating the benefits of uterine orthopædy. Dr. Tilt is well known for his valuable service in calling attention to the disturbances of the ovaries and ovulation, a subject too often neglected in favour of the more readily accessible abnormalities of the uterus. But it is surely far too absolute a generalisation to lay it down, as he does in his introduction, as one of the canons of pelvic pathology, that, as a rule, pelvic diseases of women radiate from morbid ovulation. Somewhat of a bias against the more surgical side of therapeutics seems also to be shown in the very strong denunciations of those who seem to have carried it to excess. Thus the following passage has been introduced in the last edition: - "There is a strange elasticity about conscience, so it need not surprise, that while Simpson blazoned his successful cases of hysterotomy, he buried the remembrance of his fatal cases alongside of their mortal remains." The more surgical school of gynæcologists may, however, probably be inclined to claim it as strong testimony to the advance of their principles that so cautious a physician as Dr. Tilt accepts as worthy of trial the treatment of cervical stricture recommended by Goodell and others in America, namely, immediate dilatation by a powerful forceps-like instrument, even to the extent of rupturing the circular fibres of the cervix with an audible crack.

The classification according to the several varieties of medication, tonics, caustics, antiphlogistics, and the like, while it makes the work convenient for reference in therapeutics, renders it less fitted for a handbook on which a student may found his knowledge of gynæcology, since the description of pathological conditions is introduced only incidentally, and with little system. The total absence of illustrations, which have now become so marked a feature in manuals of the kind, would also be felt a serious defect by such readers. No one, however, whether student or practitioner, will fail to find instruction, and some may receive a new light as to the fertility of gynæcology in medical resources, apart from any surgical interference.

The chapters on various drugs and other therapeutical means follow in the main the lines of previous editions, but full descriptions are added of methods of treatment which have been introduced or perfected within the last ten years, such as the application of the galvanic cautery, the use of strong nitric acid as an intra-uterine application, and of subsulphate of iron as a styptic, with the operation of spaying in the case of fibroid tumours with excessive hæmorrhage. In the chapter of formulæ we have to note especially the recommendation of vaseline as the basis of ointments, and of a mixture of four parts of vaseline with one part of pure paraffine as an elegant and unirritating compound for making suppositories.

As might be anticipated, the mechanical treatment of displacements is not so well handled as medicinal therapeutics, since the author evidently enters upon this as an uncongenial subject. He is of opinion that displacements of the womb would seldom require mechanical treatment if the congestion, inflammation, and neuralgia, by which they are complicated, were treated as he has advised, and believes that the womb has been so constructed as to admit of being twisted and turned with perfect impunity, so long as it be not diseased. Hence

he holds that it is bad practice to treat displacements by mechanical measures before curing such inflammatory lesions as congestion, ulceration, or inflammation of the neck of the womb, which may be their concomitants. He thus ignores the fact, now pretty generally accepted, that a flexion, and especially a retroflexion, though not necessarily causing endometritis, yet strongly predisposes to that lesion, and tends to maintain it when existing, so that a judicious mechanical treatment, when tolerated, is likely much to assist the efficacy of other therapeutic means.

No explanation is given of the mechanical action of the lever pessary in its various forms, and scarcely sufficient stress is laid upon its utility, especially in the moderate degrees of prolapsus and procidentia. As to Zwancke's pessary, some modification has taken place in the opinion of the author, who in the last edition praised it as the very best hitherto invented to support a voluminous descending womb, but is now full of cautions as to the possibility of its producing fistulæ. As a safeguard, he recommends that women should remove the instrument themselves, or have it removed, at least once a month. We should have supposed that the chief recommendation of the pessary consisted in the fact that patients ought to be able to remove it themselves every night, and that its only safety lay in their being strictly enjoined to do so.

With regard to the use of the intra-uterine stem, the recent revulsion of opinion in favour of its cautious application in certain cases is manifested. Like Dr. Goodell and Dr. Gaillard Thomas, the author has considerably modified his former complete denunciation, and while, in his last edition, he condemned its use as far too hazardous to be justifiable, he now describes the special form of it which he himself selects, and the device which he adopts to secure its retention.

To the chapter on tonics, Dr. Tilt's more recent experience has led him to add another therapeutic means, namely, the use of electricity. He finds it most efficacious in the form of the voltaic current, especially to cure the pain-state of a nerve remaining after the primary inflammatory cause has ceased.

The work is enlivened throughout by many graphic illustrations of the subject in hand from cases in the author's practice. It contains also useful advice to a young practitioner as to the mode of acquiring experience in gynæcology, and weighty remarks upon the prosperity and status of the obstetric branch of the profession. All who practice or take an interest in it will agree with the author in condemning the constitution of the Medical Council, upon which not one man has ever sat who understood what relates to the obstetric branch of medicine, and in connecting with this defect not only the scant provision for this subject in our medical schools, but the disgraceful state of the midwifery of the lower orders, which in this country almost alone in Europe remains without regulation.

Abstracts of Societies' Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, April 17th, 1878.

Dr. G. W. Balfour, and afterwards Dr. Argyll Robinson, Vice-President, in the Chair.

On the Essential Pathology of Puerperal Eclampsia.

By Dr. Angus Macdonald.

(Continued from p. 396.)

When I leave the consideration of the brain changes, and proceed to remark upon the cause of the peculiar alterations found to exist in the renal epithelium, I feel unable to suggest any likely ætiology, except by assuming that it resulted from some special influence exerted by the pregnant condition. This is the view that Bartels* is led to entertain regarding the cause of the frequent attacks of parenchymatous nephritis, which he believes is the form of the renal disease specially associated with pregnancy. All attempts to explain the very frequent occurrence of renal disease in connexion with pregnancy on purely mechanical grounds, such as pressure, &c., must be allowed to have proved in a great measure failures. We, however,

^{*} Loc. cit., p. 277.

see a great disposition to degenerative changes in the epithelial cells of the liver in connexion with pregnancy, and yet we are unable, with any degree of certainty, to explain the ætiology of these alterations, except by referring them to some occult influence exerted by the pregnancy, whether this arises in the condition of the nervous system, the blood and bloodvessels, or in the other tissues. The view that what is usually called the parenchymatous nephritis of pregnancy, is not a nephritis at all, but a degeneration of certain renal epithelium, establishes, it appears to me, a complete analogy between the renal condition in eclampsia and the hepatic condition in acute yellow atrophy, and further tends to the conviction that they may both be referable to a similar cause.

Some observations by Virchow, quoted by Bartels, p. 282, loc. cit., point so clearly in this direction that I cannot forbear from translating them at length. "In both organs (the kidneys and the liver), and it is a question whether we should not have added the spleen also, the same parenchymatous swellings present themselves, conditioned by the taking up of a granular, cloudy, seemingly albuminous mass, into the interior of the gland cells, whereby the organ becomes larger, loses in consistence, and after separation of the capsule seems more flabby. These changes frequently assume the inflammatory character, and one can at once describe them as parenchymatous nephritis and hepatitis. At other times their inflammatory nature is less striking, and it may then be sufficient to speak of an albuminous infiltration. In both cases the secreting power of the organs appears to suffer, and further investigation only will show which exerts the greatest influence."

Bartels, from his observations on this note, evidently thinks that the two conditions referred to by Virchow are only different stages of the same disorder. But from the very peculiar character of the epithelial alterations noticed in our first case by Mr. Hamilton, it seems as if the epithelial degenerations detected were something quite different from the first stage of an ordinary parenchymatous nephritis. Besides, our case was one that it would almost be impossible to surpass in regard to severity. So that, if we are to consider it as being only the first stage of the disorder, it seems difficult to

imagine what the advanced stage could be.

Moreover, the fact that the renal condition is a degeneration, and not a true nephritis, explains also a peculiarity of the kidney affection when it arises in connexion with pregnancy—viz., why it is found to occur without fever symptoms, such as rigor or high temperature. If it shall turn out that all cases of acute renal disease occurring in connexion with pregnancy are similar in essential characters to this one, then the absence of fever symptoms would naturally be explained by the fact that the changes taking place in the kidneys were not of a truly inflammatory nature.

Furthermore, it has always been a subject of astonishment that in cases of puerperal albuminuria, however copious the amount of

albumen might be, however severe the general symptoms, and however plentiful the tube casts, so soon as delivery is effected and improvement once begun, the return to health, in the vast majority of cases, is with a rapidity and completeness quite foreign to the experience of physicians in dealing with acute nephritis traceable to other causes.

If, in the future, we are entitled to regard the renal condition as one of limited degeneration of epithelial cells in certain peripheral tubules, with consequent mechanical closing up of the rest of the tubules, as already explained, their tissues being quite healthy, it is to my mind easy to understand, that so soon as a more healthy condition was initiated within the kidneys the colloid plugs would drop out from the tubules, leaving the great bulk of the organ in a condition of health.

Turning to the small extravasation observable in the nucleus lenticularis of the right corpus striatum, and searching for an explanation that will account for it, the only feasible one that occurs to me, seems to be to assume that the long-continued spasmodic condition of the vessels in the part had exhausted their tissues so as to lead to rupture of some capillaries. There is no evidence of any commencing inflammatory change in this neighbourhood, such as was detected in the medulla oblongata, so that we cannot assume that there was any directly irritative influence at work upon the bloodvessels at this situation, and, consequently, we are compelled to seek for a cause of a non-inflammatory nature. And it appears to me not at all improbable that the condition of spasm and consequent anæmia and defective nutrition in the vessels of the brain, which it has been the main aim of this paper to identify with puerperal eclampsia, may so exhaust the retentive power of the bloodvessels as to develop small cerebral apoplexies in the brain tissues.

There certainly were no other of those sand-grain apoplexies that are found occasionally in the cerebral tissues of persons who have died of puerperal eclampsia. For these we searched with the greatest

care, but without any success.

That, however, occasionally small apoplectic extravasations in the cerebral central ganglia are found, there is no doubt; that they frequently occur in the meninges is referred to by many writers, such as

Kiwisch, Braun, Spiegelberg, &c.

I may be allowed to mention that Dr. J. Matthews Duncan informed me, several years ago, that he was present along with Dr. Littlejohn at the post-mortem examination of two patients who died of puerperal eclampsia, in the structure of whose corpora striata, as well as in the adjoining parts of the brain, there were numerous minute apoplectic extravasations detected. This is referred to in my paper upon Puerperal Eclampsia, published in The Obstetrical Journal in 1876; and a similar state of matters is advocated as a cause of so-called uramic convulsions by Dr. Mahomed, with his distinguishing ability, in the *British Medical Journal* of 7th and 14th July of last year.

What the relation of those apoplectiform extravasations of the central portions of the brain is to the eclampsia, if they do not arise

from exhaustion as above described, it is difficult to say.

It is different where apoplexies are found in the meninges. Here we clearly trace hyperæmia as a predisposing cause of extravasation. One would naturally expect to find the various apoplexies more readily in chronic cases of renal disease, in which there are usually vascular degeneration and marked cardiac hypertrophy. But as the influences, whatever they be, that tend to their development, were sufficiently strong to show themselves in a case such as our first one, in which the vessels were specially healthy, it does seem to me that we are bound to admit that eclampsia is somehow closely related to their causation.

It is in cases of chronic renal disease that Dr. Mahomed has found the minute apoplexies to which he refers. Whether these of themselves could be the efficient cause of the eclampsia, as suggested by Dr. Mahomed, seems to me extremely doubtful. I certainly would be more inclined to believe that they were rather a result of the main lesion that caused the fits. Certainly, the minute apoplectiform patch revealed in this case could never, by any imaginary arrangement, have

been the cause of these terrible convulsions.

While, however, striving to prove that the poisoned condition of the blood, resulting from arrest of renal function, may so act upon the vaso-motor system as to lead to cerebral anæmia by spasm of cerebral vessels, and thus cause puerperal eclampsia, it does not seem improbable that when the kidneys are quite sound, a certain amount of uterine irritation may so act as to induce reflex spasm of the vaso-motor centre, and cause eclampsia, as has been suggested by Cohen.* But many other causes may lead to similar convulsions, as is well known.

I am tempted here to refer, in closing, to an interesting case, published by me in the *Edinburgh Medical Fournal* for June 1875, where the exciting cause of the convulsions, which, however, assumed a tetanic form, was intense venous congestion of the central cerebral ganglia, by occlusion of the straight sinus and venæ Galenæ by a firm thrombus.

But, after all, severe anæmia of the cerebral centres and intense venous congestion are practically the same in their effects—that is, in

both cases no arterial blood gets to the brain.

The corpora striata in this case was riddled with small extravasations, the result of the venous obstruction. I have not referred to them in the earlier part of the paper, as I am convinced that the cause of this lesion was so distinct from ordinary eclampsia, that it could scarcely be applied in explanation of the latter condition, except in so far as it indicates the effect of irritation of the motor cerebral centres in the production of convulsions of a general character.

The following are the chief points of this case. They are worth

^{*} Archiv für Gynak., Bd. vii. s. 107, p. 4.

some attention, were it for nothing but the very unique pathological

condition in which the brain centres are found:—

About 10 A.M. on the morning of the 9th of March, 1875, I was hurriedly summoned by Mr. Bentley, one of my pupils at the New Town Dispensary, to see a patient to whom he had been that morning called, and who, he stated in the note, seemed to suffer from puerperal convulsions. She had been married for three years, and had had two children. The eldest, a healthy girl, was born about one year after marriage, and is still alive and well. This child, however, was suckled by the patient during the whole period of her second pregnancy, and even up to the commencement of her labour.

The second confinement took place on the 26th day of February, 1875, at 3.50 A.M., when she was delivered by Mr. Bentley of a male child, after an easy labour of a few hours' duration. All the stages were natural and normal. The placenta was removed about fifteen minutes after the birth of the child, with little or no effort on the part of the attendant. The labour would appear to have supervened about three weeks or so before the completion of the full term of

utero-gestation.

The patient had continued to progress favourably until about 2 A.M. on the morning of the 9th of March, when she was noticed to be sitting up in bed, bent forwards. It is to be noticed that on the previous day she had been in her usual health, going about her duties, and making no complaints. When she sat up at this time she complained of no pain, and in fact never spoke, but appeared very restless, rubbing her legs and clutching at her hair.

On Mr. Bentley's arrival at 9 A.M., the patient was completely unconscious, and there were present strong tetanic spasms, similar to

those described below, only more violent in character.

On my arrival I made the following note of her condition:—Face pale; general appearance anæmic; skin soft and dry, but feels as to temperature natural; pupils somewhat contracted, and almost completely insensible to light; conjunctivæ insensible to touch; eyes glazed-looking. Patient completely unconscious both during and between the attacks of spasm. Urine expelled involuntarily. Spasms of a truly tetanic character occur at intervals of about a minute. During these seizures the heels and the occiput are the only parts of the patient's body which touch the bed, the contractions being thus mainly of an opisthotonic character.

During each seizure the muscles of the back are seen to be strongly contracted. The upper extremities are powerfully flexed, the fingers being bent forcibly towards the palm, and the thumb turned inwards,

and the forearm powerfully flexed over the upper arm.

The slightest irritation applied to the skin, such as the touch of a cold hand, is sufficient to throw the patient into complete opisthotonos, which attacks are also induced by every effort at examining the patient's condition.

The muscles of the neck are powerfully contracted during the

attacks, more particularly the sterno-cleido-mastoid; but there is no risus sardonicus, and it is only during the more severe attacks that trismus occurs. Every $\mathbf{1}^{1}_{2}$ minute or so an attack occurs, and every fourth or fifth attack is much more severe than those intermediate. There is no congestion of the face during the spasms. Though the opisthotonos can be induced at any time by application of external stimuli, the attacks recur at regular intervals of about $\mathbf{1}^{1}_{2}$ minute spontaneously.

Pulse 74, weak, soft, compressible, and somewhat irregular. Respirations, during intervals between the fits, shallow and quick, being 26 per minute, but during the attacks they become stertorous. Tem-

perature per vaginam, 101°.

Attempts to get the patient to swallow induce violent fits, but

prove wholly abortive.

On examination per vaginam and per hypogastrium, uterus, parametria, and vagina seemed perfectly normal.

A catheter was now passed, and about a tablespoonful of water

extracted from the bladder.

This, on cooling, exhibits a profuse deposit of urates, is of acid reaction, but on heating with nitric acid does not give the slightest trace of albumen.

The following treatment was then ordered:—

R Hydratis chloralis, Ziij. Aquæ, Ziij.—Solve.

Sig. A tablespoonful to be mixed with a little warm water and injected into the rectum. The patient gradually got weaker and died at 2.15 P.M.

Post-mortem Examination Forty-six Hours after Death. Performed by Dr. John Wyllie.

Brain.—On opening the skull, about two ounces of serous fluid escaped from the lateral ventricles. Cerebral convolutions were flattened, and some venous congestion of the cerebral surface present. Both lateral ventricles were filled with dark blood-clots, which passed forwards into the anterior cornua, and backwards into the posterior cornua. The amount of clot seemed to be about half an ounce in each ventricle, and there was some laceration of the ventricular walls. In each corpus striatum there were a vast number of small extravasations, varying in size from that of a millet-seed to that of a pea. This condition was found to extend throughout the entire tissue of both corpora striata. The third ventricle also was filled with blood-clot, which again was found to extend along the iter to the fourth ventricle, and hence to the inferior sulcus between the two lateral lobes of the cerebellum.

As a result of the hæmorrhages into their tissue, both corpora striata were torn up and softened. The venæ Galenæ and the straight sinus were found occupied by a large, dense, firm, and adherent thrombus. This condition extended also into the left

lateral sinus, but in its cavity the clot was not so firm. The blood in the right lateral sinus was fluid. Other viscera were found

healthy.

It will be seen that this case presented many symptoms akin to eclampsia, only that the spasms were tonic and clonic, or mixed tonic and clonic, affected the muscles of the posterior aspect of the body especially, and were capable of being excited by the slightest external stimulus, such as the application of a cold hand to the skin.

The convulsions must have been produced by the peculiar brain changes. It becomes therefore interesting to ascertain, if possible, how these alterations arose, and how they acted so as to induce the

convulsions.

The most important determining cause was manifestly the thrombus of the straight sinus and venæ Galenæ. How did it originate?

I can imagine no cause likely to give rise to this cerebral thrombus, except the peculiar condition of the blood associated with the puerperal condition. As a result of its presence, those portions of the brain draining into the straight sinus and venæ Galenæ, whether directly or indirectly, must of necessity have been thrown into a condition of intense venous congestion so soon as the impermeability of the straight sinus was established. This restriction as to drainage includes, among others, the venæ corporis striati, and the venæ choroideæ, as well as some cerebellar veins. In the congestion arising from this blocking-up of the venous channels, it seems to me that we have the proximate cause of the fits.

Whatever view may be entertained of the precise share taken in such convulsive movements by the other parts of the brain, and especially by the cerebral convolutions, as also of the relation of these ganglia to one another and to the brain, it may be held as proved that the optic thalami, the corpora striata, and the corpora quadrigemina, are great co-ordinating centres of motion for the various parts of the body, and that when any irritative influence is at work within the space of the brain occupied by them, we are certain to have general convulsions, with a tendency towards opisthotonos, if the corpora quadrigemina are affected, and to pleurosthotonos if one corpus striatum is more irritated than the other. Destruction of their tissue, again, leads to arrest of motion, or paralysis.

It appears to me more than probable that, had we seen this patient in the early part of the attack, we should have found the spasms general throughout the body, but that after the attack had lasted for some hours, and the extravasations into the ventricles and into the tissue of the corpora striata had advanced so far as to lead to pressure upon the destruction of the tissue of these ganglia, their functional activity must necessarily have failed, and, instead of exalted motoractivity in the muscles regulated by them, arrest of such action must

have resulted.

Up to the last, however, the corpora quadrigemina were in a different condition. Though the great mass of blood supplied to

them drains into the straight sinus, and though, consequently, the same condition which congested and broke up the corpora striata led to irritative congestion of the former ganglia, yet whether, owing to the vessels in relation to them being of stronger tension, or for some other reason, the congestion had not in their case led to extravasation, and consequently we had exaltation of their special function in the

form of opisthotonos.

There is some difficulty in accounting for the sudden onset of the seizures, as, from the amount and the firmness of the venous thrombus, we cannot doubt but it must have existed for some days previously to the commencement of the fits. But I think that this is rationally and satisfactorily accounted for by the supposition that only immediately before the attack did the venous sinuses become absolutely closed, having previously admitted an amount of blood to pass, sufficient to prevent the occurrence of that degree of congestion capable of determining in convulsions.

I have thus been able to show, by direct appeal to dissection, that ordinary puerperal eclampsia is apt to be accompanied by minute apoplectic extravasations in the region of the corpora striata. But I have already said that I am compelled to look upon this condition as a result of the continued operation of the brain changes that cause

the fits, and not as itself a cause.

I have also been able to refer to a case in which the congestion that led to the apoplexies seemed to me to have been the cause of severe general convulsions of a tetanic character. It appears, however, that in this case the extravasation that followed from the prolonged congestion limited, and ultimately terminated, rather than caused the fits.

Indeed, the prevention of the access of arterial blood to the brain motor centres, however induced, would appear to have been the essential condition that determined the convulsions in all these cases. Only for want of a better term, we have called it in the third case irritative venous congestion.

But I have already made this contribution too long, and must therefore stop. I have honestly endeavoured, by an examination and analysis of the very peculiar appearance in the brain and kidneys in my first case, to build up a reasonable conception of the essential

pathology of the convulsions.

Whether my views be correct as regards even that case, is a subject that I freely admit is open to question. Whether, also, that case may be taken as a type of its class in regard to the cerebral and renal appearances in eclampsia, is a matter that can only be settled by a careful examination of the brain and kidneys of many fatal cases of the disease. All I wish to say is, that the conditions were so very decided, that I cannot help thinking they will be found present in all well-marked cases, and also that my second case, to a certain amount, supports me in this view.

I have, however, no wish to push my conclusions to an undue

length, and shall be glad if this effort stimulates other observers to inquire into and elucidate this dark region, even though the result should be to negative my favourite hypothesis.

Meeting, Wednesday, May 1st, 1878.
Professor Sanders, President, in the Chair.

Professor Grainger Stewart had thought it a pity at their last meeting that such a valuable paper should be discussed in the short time then available; and accordingly at his suggestion the Society had agreed to defer it till their present meeting. The paper deserved their careful consideration both on account of the facts observed in the cases, and the hypothesis brought forward as possibly explaining these facts. He wished to make a few remarks on one or two points. In the first place, the lesion of the kidney was one which had not hitherto been described, at all events as an acute process. According to Mr. Hamilton's report, the kidneys were of ordinary size; the capsule stripped off easily; they presented the naked-eye characters of ordinary acute inflammatory Bright's disease or parenchymatous nephritis as it is often called. Microscopically, however, the tubules were found blocked with what was described as colloid matter, and the tubules above the blockings were dilated, but lined with healthy epithelium. The colloid material was evidently derived from the epithelial cells, as some of which were seen to be swollen with it, while others had the colloid material issuing from them. The presence of the so-called colloid material in cysts of the kidney, and in cirrhotic kidney, with or without inflammation of tubules added, was familiar enough to them, and a material which might turn out to be colloid, was frequently present in certain stages of the waxy or amyloid disease; but as a product of an acute lesion it was, as he had already said, hitherto undescribed. The clinical features of the case were diminution of the amount of urine, its being of a dark colour, containing a large amount of albumen and numerous granular tube-casts—i.e., the same urinary symptoms as are found in an ordinary inflammatory lesion of the kidney; but yet in this case while albumen and granular casts were numerous, it turned out that there was no change in the epithelium discoverable after death, except the presence of the colloid material. Clinically as well as pathologically, then, the case was interesting. It was worthy of notice that there exists another rare lesion of the kidney-viz., acute atrophy, which is attended with similar symptoms. Ten or twelve years ago, he had brought under the notice of the Society two cases in women recently confined, where with diminution of urine, albuminuria, and copious discharge of tube-casts, cerebral symptoms occurred. Lesions of the kidney, identical with those in acute atrophy of the liver, were found. One could trace the stages of infiltration of the cells, of fatty degeneration and breaking-down, or disintegration. Many of the tubules

were empty, and many filled with fattily degenerated or with swollen epithelium. Thus the clinical features were analogous in three or four distinct lesions—viz., acute atrophy, ordinary parenchymatous inflammation, glomerular nephritis, and the colloid lesion described by Hamilton and the author of the paper. The relation, however, between the kidney lesion and the head symptoms in Dr. Macdonald's case was not clear to him. It might be held that the renal changes were secondary to nervous, but on the whole it was much more pro-

bable that the kidneys were first affected.

The second point about which he wished to say a few words was the state of the nerve centres. He would first say that it was one of the most completely examined cases that had yet been published. He hoped it would be the first of a long series of such, which might be brought before the Society. The complete and accurate investigation had laid the members under deep obligations to the author of the paper. Of special interest was the central anæmia unattended by cedema, which, according to Traube and Rosenstein, is the cause of the emptiness of the vessels. Of still greater interest were the changes in the medulla oblongata-viz., the presence of leucocytes around and passing through the vessels. These latter observations struck him as interesting in connexion with some clinical facts which are not unfrequently witnessed in cases of Bright's disease, where the symptoms were at first suggestive of a bulbar lesion, the articulation becoming thick and slow before any other uraemic symptom occurred. He had a specimen in process of hardening, which he hoped might throw some light on this. A patient suffering from cirrhosis of the kidneys had first manifested the uræmic tendency by restlessness and thickness of speech like that of a person in a state of alcoholic intoxi-That patient had died without any convulsion, and Dr. Stewart thought it reasonable to expect to find some changes in, or in the neighbourhood of, the medulla oblongata. One good result flowing from the paper would be, that observers would be led to examine minutely that portion of the nervous system, and that probably important changes would be discovered, perhaps corresponding to those which Dr. Macdonald had described.

The third point which he deemed worthy of special remark was the hypothesis which Dr. Macdonald had advanced in explanation of the phenomena—viz., that irritation of the vaso-motor centre was the cause of the anæmia of the brain and the consequent convulsions. But upon the discussion of this point he would not himself enter. So many theories of uræmic convulsions had been advanced and rejected within the past thirty years, that he felt disinclined to enter upon a discussion of this one, which he understood Dr. Macdonald had only thrown out as a suggestion. It might turn out correct, but of course being founded upon only a single case, he thought it of less importance than the very remarkable observations which preceded it. It would, at all events, prove useful by directing the attention of others to the minute investigation of the state of the medulla oblongata in

other examples of the disease. He begged to thank Dr. Macdonald

for the excellent work embodied in this paper.

Dr. C. E. Underhill had shared in the interest of the Society. The whole case had been so well put, and the views argued so closely, that care was required to follow it. As he understood it, the convulsions were caused by the anæmia of the brain centres, the anæmia by over-stimulation of the vaso-motor centre, and this again by the poisoned blood. The account of the kidney lesion was of great value, because they had often attacks coming on and disappearing quite unlike the history of parenchymatous disease. He had always thought that too much importance was attached to the presence or absence of albumen, and other points ignored. Of greater importance was any diminution in the amount of urine and urea excreted. The vaso-motor theory as explaining the anæmia of the brain was of very great value. At the same time, he thought Dr. Macdonald was on doubtful ground as to the locality of the vasomotor centre in man, seeing that we only knew the exact site in the lower animals, and they were not justified in arguing from them to man. The full record of the brain and kidney lesion was of importance; and though Dr. Macdonald had built up a considerable superstructure on one case, still cases were, and post-mortems of them, still rarer.

Dr. G. W. Balfour, in common with the other members, felt indebted to Mr. Hamilton and Dr. Macdonald for the very careful manner in which the history of the case and its morbid anatomy had been recorded. In regard to the pathogeny propounded, however, it was important to remember that there were numerous cases of chronic Bright, in which the patient lived for many years on the very brink of uræmia. In such cases the blood, almost saturated with the product of retrograde metamorphosis, poured off some of this morbid matter through the kidneys, at one end of the vascular connexion. taking in an equivalent amount from the tissues at the other, life being thus maintained for many years in a state of chronic bloodpoisoning. In the face of this well-known fact it was difficult to understand how such intense cerebral anæmia, as described in this case, could be due to irritation of the vaso-motor centres by the blood-poisoning alone. He recognised the importance of the theory suggested, but considered that the fact he had mentioned was a rock ahead in the way of any such explanations which it would be difficult to get rid of.

Dr. Wyllie agreed with all as to the value of the paper. At the same time the subject was a difficult one, and some points admitted of discussion. The symptoms during life and the appearances in the brain after death were, he thought, not entirely such as to support the conclusions of Dr. Macdonald, namely, that the fits were due to anæmia of the brain, and that this was produced by irritation of the vaso-motor centre and consequent spasm of the vessels. One would suppose that where there was great irritation of the vaso-motor centre.

it would be evidenced during life by dilatation of the pupil, the sympathetic system being the source of nervous supply for the radiating fibres of the iris. In Dr. Macdonald's report, however, it is stated that the pupils were somewhat contracted. Then in the brain after death there were two appearances which seemed more likely to be the results of congestion than of anæmia-viz., the extravasation of blood in the right corpus striatum, and the accumulation of migrated leucocytes in the medulla oblongata. In regard to the extravasation, Dr. Macdonald suggested as a cause the weakening of the vascular walls by long-continued spasm and consequent malnutrition from want of blood. But even if so enfeebled, a vessel would rupture only after becoming dilated, and yet the vessels in the neighbourhood of the extravasation were found contracted and empty; so also with regard to the accumulation of migrated leucocytes in the medulla, the vessels in its neighbourhood were found empty, although all observation of acute inflammation showed congestion to be the invariable accompaniment of such migrations. It seemed, therefore, probable that congestion of the brain existed during the fits, and that the anæmia found after death was established at some time in the interval of fifteen hours that elapsed between the last convulsion and the death of the patient. He was personally interested in Mr. Hamilton's observations on the kidneys. They were of special value, and he agreed with Professor Stewart as to their

Mr. D. J. Hamilton, as his name had been associated with the case, wished to say a few words in regard to it. The lesion of the kidney was one he had never seen in an acute case. Colloid degeneration occurred in the thyroid body, in adenoid tumours of the ovary, and in occluded uriniferous tubules. Until this case he had never seen colloid material produced in the kidney without obstruction; and as no obstruction was present, he could not see why it occurred. There could be no doubt that it was colloid similar to that in the waxy and contracted kidneys. Its action with reagents, its homogeneous appearance, and the accurate cast it took of the tubules, led him to say without hesitation that it was this substance. In regard to the convulsions, we had to make out whether the kidney lesion was primary or secondary. The kidney lesion was probably initial, but it was quite possible that the reverse might be the case viz., that the subacute inflammation of the medulla oblongata was An interesting experiment on the rabbit should be kept in mind. The kidney can be exposed and turned out of the abdomen by a vertical incision in the loin. By a median incision in the neck, the posterior aspect of the medulla oblongata and fourth ventricle can also be exposed. If then the vaso-motor centre be stimulated, the kidney gradually becomes anæmic. Thus it could be conclusively proved that anæmia of the kidney might arise from stimulation of the vaso-motor centre. The question now was, Did the colloid degeneration arise from this? It is quite possible that it did. Then as to

the anæmia, it was certainly the most remarkable he had ever seen, the brain being literally blanched. In five chronic, idiopathic, epileptic patients, he had found on post-mortem examination a remarkable induration, almost cartilaginous, of the corpora olivaria and medulla oblongata between them. This was often found in epileptics, without any apparent lesion source elsewhere. He had not yet published these observations. Schroeder van der Kolk refers to it, but gives no explanation of its cause. The source of the induration in the above cases was evident on microscopic examination. In all he found marked cirrhosis like that in the liver, originating round the bloodvessels. These facts had a direct bearing on Dr. Macdonald's theory of the cause of the convulsions in the case under consideration. He thought Dr. Macdonald's explanation was supported both by pathological and physiological evidence. It seemed to him that Dr. Wyllie's remarks about the hæmorrhages being probably the result of congestion really added support to the theory. Thus, in epilepsy there is apparently at first a spasm of the vessels causing anæmia and subsequently convulsions. Kussmaul and Tenner have shown that if anæmia be produced in the cerebral centres by ligature of the large arteries, convulsions are produced. In epilepsy, however, a stage of congestion apparently follows, characterised by the flushing and lividity of the face. In the medulla oblongata the vasomotor areas lie between the calamus scriptorius and corpora quadrigemina. There is, however, every reason to believe that, in this same region, there is also a vaso-inhibitory centre. Judging from Rutherford's well-known analogous experiment in the rabbit, it is probable that this centre is peculiarly susceptible to the action of carbonic acid. During the spasm of the vessels in the first stage of an epileptic attack, the carbonic acid would naturally tend to accumulate in the system from averted circulation, producing an irritation of the vaso inhibitory centre, and a subsequent dilatation of the cerebral bloodvessels. It is also probable that the exhaustion of the vasomotor centres from the primary anæmia would also tend to bring about this result. The congestion which takes place in the second stage of an epileptic seizure is, judging from the appearance of external parts, very great, and it was probably at this period of the attack that the punctiform hæmorrhages occurred.

Mr. Benjamin Bell had not been in the habit of attending the meetings for some years back, owing to advancing years and laziness. He had been struck on reading Dr. Macdonald's able and suggestive paper, and had come to hear the discussion on it. Forty years ago Sir Astley Cooper had performed a series of experiments on the effects of ligature of both carotids and vertebrals. He (Mr. Bell) further wishes to know if there had been any accurate observations on cases of strychnia poisoning or other cases of toxæmia. As to the explanation Mr. Hamilton had given of the congestion in epilepsy, he thought it was more probably due to embarrassment of respiration. He had read Dr. Macdonald's paper

with great pleasure, and had come to add his tribute of respect to the author.

Professor SIMPSON had felt considerable disappointment that Dr. Macdonald had not been rewarded for bringing his paper before the Medico-Chirurgical Society by a discussion which threw any clearer light on the pathology of puerperal eclampsia. The subject was an intensely interesting one, as well as of great practical importance. Most of the members had been brought up in the belief that the convulsions were due to a poisoning of the blood. Two years ago, however, Dr. Macdonald, in the communication to the Obstetrical Society to which he had referred, but which none of the special members of this Society seemed to have paid him the compliment of studying, had found three good reasons for disposing of the toxæmic theory; and Traube-Rosenstein's was accordingly aired as the true one. He himself was sorry to see a favourite theory shelved, and had entered a caveat against its summary dismissal; and he was rather amused to note, that now, after so short a time, the toxæmic theory was taken off the shelf, and the mechanical theory of 1876 laid aside, for Dr. Macdonald in his present paper regarded toxæmia as the initial factor in his theory of the convulsions. He had come to the meeting expecting to hear the physicians and pathologists discuss the causes of puerperal convulsions in the light of all the more recent experiments and investigations bearing on the convulsions of epilepsy and anæmia, for many experiments such as Mr. Bell had inquired about had been made with different varieties of poison. But as those who had been specially challenged to debate the question had very much given it the go-by, he would only point out that Rosenstein, as the result of his observations, had stated formally that if the poisoned blood produced convulsions, it must be by irritation of the vaso-motor centre. Now this was precisely the hypothesis that Dr. Macdonald had advanced, but only on the ground of the observation made by Mr. Hamilton in one single case. A second case, indeed, was related, but, as far as the history was given, it did not in the least bear out the theory that there was inflammatory irritation of the olivary bodies. Dr. Macdonald, as to this case, had himself said, "My observations in the sequel of this paper in reference to the sections above described must be regarded as based almost exclusively upon the facts observed in the former of the two cases. The second case can only be looked upon as, on the whole, so far as the brain changes were developed, corroborative of the facts observed so pronouncedly in the first, and nothing more."* Then as if in further support of his theory, Dr. Macdonald had quoted a case of puerperal tetanus, recorded in the last volume of their Obstetrical Transactions. In this case, however, when it was related to the Obstetrical Society, the proximate cause of the tetanus was said to be venous obstruction, † and Dr. Matthews Duncan, in the dis-

^{*} Edinburgh Medical Journal, May, 1878.
† Edinburgh Obstetrical Transactions, vol. iv. p. 108,
No. LXVII.—Vol. VI.

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cussion that followed, said, "The great merit of the paper was in showing it to be really a case of puerperal tetanus. There could be

no doubt that it was tetanus and not eclamptic."*

One comfort remained amid all this contradiction for the practitioners in that department of medicine—the advance which, according to Dr. Macdonald, had been disfigured and retarded by "rash generalisations and crude views." When he advocated in the Obstetrical Society the adoption of Rosenstein's mechanical theory, Dr. Macdonald pointed out how beautifully it fitted in with the best approved practice in the treatment of puerperal convulsions—the employment—viz., of bloodletting, and the administration of chloral. And now it was partly on the harmony between the modes of action of these same remedies that he asked them here to adopt a modification of the toxemic theory. So that when the obstetrician went to treat cases of puerperal convulsions, it did not matter what theory of their pathogeny he adopted, whether it was the mechanical theory or the theory of vaso-motor irritation by poisoned blood; chloral and bloodletting would give their happy results equally well explained by

the one as by the other hypothesis.

Dr. MACDONALD, in reply, had no intention of detaining the Society with many remarks. He had taken a few notes of some of the criticisms, but Mr. Hamilton had already answered these effectively. In regard to Dr. Underhill's remarks on the locality of the vasomotor centre, he had taken the facts about it from Ferrier and Michael Foster, and as they suited his theory had used them. Dr. G. W. Balfour's question was difficult to answer; but Dr. Underhill's remarks about the amount of urine passed seemed important. In regard to Professor Simpson's remarks about his change of views, he hoped he would never take up a stereotype position. In the matter of puerperal eclampsia he was groping his way. He, indeed, never professed anything else. Sometimes he made a hit, sometimes a miss, but he was never ashamed to change his mind. In regard to the case of puerperal tetanus, he believed that, if seen at an earlier period, it would have been one of puerperal eclampsia. After the destruction of the corpora striata by blood extravasation, there still remained the corpora quadrigemina, by whose irritation the tetanus was brought about. He wished, finally, to thank the members for the kind manner in which they had listened, and for their kind and gentle criticisms.

^{*} Ibid., p. 115.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, March 9th, 1878. Dr. Darby, President, in the Chair.

Milk Fever.

By ARTHUR V. MACAN, M.B., M.Ch. Dub.

The expression "Milk Fever" has now been in common use among practitioners of midwifery for many centuries. Its exact origin is enveloped in obscurity, but the fact of its existence is certified by the most ancient traditions, and by the accumulated evidence of successive generations of medical men, by whom it has

been recognised and described.

We must not, however, be surprised in the present age, when the general attitude of the scientific mind towards all ancient theories and beliefs seems to be one of universal scepticism, if milk fever has been indicted as an impostor, and called upon to plead before the bar of the profession for its very existence. Those who know how important a part it has played, and still plays, in the pathology of the puerperal state, will not think it waste of time to pass in review the theories that have been held with regard to it, and to examine the grounds on which its very existence has lately been called in question. This I propose to do to-night, and will embody in this paper the results I have myself obtained from an analysis of the temperature of more than 400 (446) puerperal women, who were admitted into the Rotunda Lying-in Hospital during the time I had the privi-

lege of being Assistant Physician to that institution.

The first theory of its production that I have been able to find is in a book published in the year 1655 by an Englishman named Willis. He held that women, during their menstruating age, are subject to the periodical production in their blood of certain highly fermentable particles, the retention of which in the body, if the woman be not pregnant, gives rise to various disorders. During pregnancy, however, this menstrual material need not be cast out, for a nutritive substance or milk is being continually deposited in abundance about the uterine portion of the placenta for the nourishment of the fœtus. As soon, however, as the child is born, this menstrual material or milk is got rid of through the lochia, and afterwards by the secretion of milk by the breasts. Should the milk not be secreted by the breasts, it is determined to the uterus, where it accumulates, and is discharged as a whitish humour—the lochia alba sive lactea. If the milk be unable to escape—that is to say, if it is obstructed in the breasts and also in the womb-it is retained in the system, and gives rise to all sorts of evils, and among them to milk fever. (Meigs "On Childbed Fever," p. 53.)

This doctrine of the obstruction of the milk was held by our renowned countryman, Smellie, and was the cause, I think, of his

failing in his chapter on Milk Fever to diagnose accurately between it and the more serious puerperal affections; for, while he admits that milk fever, when unaccompanied by uterine complications, is not so dangerous as the other fevers, and much easier to cure, still he says: "Most of the complaints incident to women after delivery proceed either from the obstruction of the lochia in the uterus, or of the milk in the breasts." (M'Clintock's ed., vol. i. p. 405.) And further on, when speaking of the distension of the breasts, he says:-"But if the woman catch cold, or is of full habit of body, and not very abstemious, the tension and pain increasing will bring on a cold shivering, succeeded by a fever, which may obstruct the other secretions, as well as those of the breast." From these passages it is plain he held the doctrine that the obstruction to the milk was the cause of milk fever, and we think we may infer from the following passage that he had an indistinct perception of what was afterwards elaborated by Puzos into the theory of the dispersion of the milk. Thus, at p. 413, he says:—" If, in spite of these endeavours, the fever proceeds for some days, the patient is frequently relieved by critical sweats, a large discharge from the uterus, miliary eruptions, or loose stools mixed with milk which is curdled in the intestines."

The next mention of it is by Dr. John Maubray, who, according to Denman, was the first public teacher of midwiferv in England, and who published a book entitled "The Female Physician," in 1724. He taught that milk fever occurred in almost all puerperal women about the third or fourth day; that it was caused by the milk being converted from the womb to the breasts, and that it resolved itself about the ninth day in sweat. It was not as a rule dangerous, but many circumstances might turn it into a putrid fever, and, as he quaintly expresses it, "a latent cacochymy may also easily dispose it to corruption."

In 1756, Dr. Young, who was then a professor of midwifery in Edinburgh, and who had been a lecturer for some time previously, considered milk fever as due to the distension of the breasts, and says nothing about the milk being thrown upon them from the uterus.

Almost simultaneously with the appearance of Smellie's work in England in the year 1751, Dr. Astruc, Physician to the King of France, published his "Midwifery," in which he speaks of the uterine milk which is formed in the lactiferous vessels of the womb. About the second or third day the mouths of these lactiferous vessels become closed by the contraction of the uterus, and the uterine milk is forced to regurgitate on the blood, and to join the milk of the breasts, from which it does not in the least differ. Milk fever is partly caused by distension of the breasts, and partly because, to use his own words, "the milk by stagnating longer in the blood grows ascescent, and hence acquires a tendency to thicken it, which occasions a shivering or cold fit, more or less strong." This is followed by a hot fit, which lasts from fifteen to twenty hours, or even a day and a half, and generally terminates in profuse sweating, but may occasionally run on

into a continued fever. He states that, in his time, milk fever was much more common than it had been previously, when it was the custom to hire women to suck the breasts as soon as they contained any milk. When he wrote, this custom had gone out of fashion, women thinking that it softened the breasts and so spoiled their shape. It seems probable, from the views already quoted, that this custom had its origin in the idea that the first milk secreted was nothing but the impure humours which were thus finding a way to

escape from the body.

A few years later, Puzos published his treatise on Milk Deposits ("Sur les dépôts Laiteux"), in which he developed his celebrated theory that all puerperal disorders, such as peritonitis, pelvic abscess, phlegmasia dolens, and puerperal mania, were caused by a metastasis or dispersion of the milk from the breast to the intestines, the uterus, the lower extremities, and the brain. At the same time, however, he gives most minute and accurate directions as to the diagnosis of these affections from milk fever. His arguments in support of this theory were short and conclusive. He held that during pregnancy the milk was formed, and circulated in the vessels along with the blood, but was drawn to the uterus to nourish the child as long as it was there. As soon as it was born, the milk had to find some way to escape from the system, either by the vagina or by the breasts, in the urine, or in the stools, which latter, he said, were whiter than at other times. It was obvious that if the milk was prevented from thus making its escape, it must accumulate in the system; and that it did so accumulate, was proved by numerous post-mortem examinations, in which it was found in curdled masses in different parts of the body. influence of this theory, which is obviously nothing but a modification of Willis's theory already mentioned, of easily fermentable menstrual particles being present in the blood, was long felt on the Continent, but was soon refuted, though by no means universally abandoned, in England; and as a necessary consequence, the theory of milk fever in this country also underwent a change. Thus, in 1784, a small book was published by the celebrated Mr. Charles White, Manchester, entitled—"An Inquiry into the Nature and Cause of that Swelling, in one or both of the lower extremities, which sometimes happens to Lying-in Women; together with an Examination into the propriety of Drawing the Breasts of those who do, and also of those who do not give Suck." In the first part he shows, by a number of cases, that the milk-leg of puerperal women is not due to a deposit or redundancy of the milk. In the second, he condemns the practice that was common at that time of drawing the breasts of women who did not intend to nurse, which custom evidently had its origin in the idea that if the milk were allowed to accumulate in the breasts, it would be thrown back on the blood, and thus give rise to various disorders. And then, with a candour and courage worthy of all imitation, he adds:—"I must acknowledge that, at the time I wrote my 'Treatise on the Management of Pregnant and Lying-in Women,' in

1772, I had a different idea, and even believed in the doctrine of depositions or translations of the milk; but further observation and experience have convinced me of my error, and I am not ashamed to recall what I said on that subject" (p. 68). He gives the following quotation from the lectures of John Hunter:-" If the patient is not to suckle her child, many things are recommended to be applied to the breasts. In Ireland they have them drawn, supposing that if the milk is locked up it will produce fever. . . . I always prefer leaving the breasts to nature, and letting the milk come into them, and either run out or be carried back into the constitution, to be afterwards discharged by stool, urine, &c. . . . In general, however, nothing is required but patience for a few hours, and the case always ends well; and I do not believe there is any risk from giving up the milk and leaving it to nature. It is very natural, I must allow, that a woman should suckle her own child; but many women are so delicate and nervous, that after teazing themselves and their child in endeavouring to do this, they are obliged to give it up in a few days, or a week; and I believe this is not attended with the least danger. I reason from facts, for there is hardly one of my patients that suckles her child, and yet they recover much better, and are much stronger after lying-in, than those who do. For the omniscient Author of nature, who has contrived everything in the most proper way, foresaw that children would sometimes be born dead, or die soon after birth; and has therefore taken care that the life of the mother should not depend on that of the child, but that the milk should be carried off without doing any harm."

We may gather from this passage, and also from the views enunciated in a book published in 1781 by Dr. E. Foster—who, as we are informed on the title-page, had formerly been a teacher of midwifery in the city of Dublin—that the theory of the obstruction of the milk

was at that time held in this city.

White's views were very similar to Hunter's. He says that if the breasts are not drawn—"Women recover faster, and much trouble is saved by this means, and the breasts are absolutely prevented from gathering. I have proved beyond the possibility of doubt that it does not occasion the swelling of the lower extremities; and I am equally convinced that it does not occasion either the puerperal or miliary fever, and that the milk fever is slighter, and of much shorter duration, than when the breasts are drawn; nor do I see any inconveniences that can attend this mode of treatment, but what will attend the drawing of the breasts, in as high a degree at least" (p. 74).

However, though as early as 1784 Hunter and White had both repudiated the theory of the translation of the milk, and almost, as a necessary consequence, the allied theory of milk fever being due to the throwing back of the milk on the blood, still we find this theory in vogue in Scotland as late as 1803. For in the "Edinburgh Practice of Midwifery," published in that year, the chapter on Milk Fever is little more than a reprint out of Smellie's work, published more

than fifty years previously, in which, as we have already seen, all puerperal disorders are put down to the obstruction of the lochia in the uterus, or of the milk in the breasts. Even in the fifth edition of "Denman's Midwifery," published in 1815, the author thinks it necessary to mention as groundless the idea that puerperal fever is in any way due to the milk, though he thinks an intimate consent between the uterus and the breasts is abundantly demonstrated by "the transition of the humours from one to the other." This is the latest trace I have found of the theory of Puzos, and since that time up till quite recently, though writers here and there have said that the fever is due to the pain and over-distension of the breasts, still the prevailing idea among British authors has, I think, been that it is connected with the physiological action of the gland accompanying the first secretion of the milk. On the Continent, however, as early as the year 1820, Professor Carus stated that so-called milk fever was in reality due to a number of separate causes, such as cold, emotion, errors in diet, irritation of the breasts and nipples, and of the internal genitals; and Schroeder, in his "Midwifery," mentions a number of circumstances, unconnected with the secretion of the milk or septic influence, which may cause fever in the puerperal woman. He thinks that normally the first secretion of the milk is accompanied with a rise in temperature of a few fifths of a degree Fahr., though the temperature may rise as high as 100°.76 without any pathological process being present. In some cases, however, the heat and the distension of the breasts are very great, and the temperature may rise to 104° or 105°. For this condition he reserves the name "milk fever," though he acknowledges that symptoms of local inflammation in the breast are present, and that a more suitable name for it would be non-suppurative parenchymatous mastitis. Professor Winckel,* of Dresden, objects most strongly to the term "milk fever" as quite unscientific, and as propagating false views as to the pathology of the affection. He holds that when the temperature exceeds 100°.76, there must be actual inflammation of the breasts present—a statement which corresponds very nearly with those of Schroeder and Schram, the chief point in dispute being the propriety of calling this fever "milk fever." In France the question of the existence of milk fever has been recently investigated by M. Chantreuil. † He concludes that any increase in temperature which amounts to as much as 1° Fahr., must be put down to the trauma of the genital tract, and not to the secretion of the milk. This is also the view held by Prof. Halbertsma, of Utrecht, and by Dr. G. Wilds Lynn, t of Philadelphia.

In my own cases the temperature was as a rule taken only once daily—viz., between three and five o'clock P.M.; but the patients were constantly under observation, and I was at once informed if any of

^{* &}quot;Pathologie und Therapie der Wochenbetter." Second Edition, p. 405.

† Archives de Tocologie. Aug., 1874.

‡ Philadelphia Med. Times. May, 1874. A résumé of this paper and that of M. Chantreuil may be found in the Irish Hospital Gazette. Sept. 1st, 1874.

them were attacked with a rigor or shivering, so that the cases of fever which could have escaped notice are very few. Of the total number of 446 cases, I find that 23 are, from various causes, useless for this investigation. In 114, or about 27 per cent. of the 423 cases remaining, the rise in temperature during the whole period the women were under observation did not exceed 1° Fahr. Further, taking, as Wunderlich does, 100°-4 as the limit of a subfebrile temperature, we find that in 197 cases, or 46.5 per cent., the temperature never rose to fever height. If we now analyse the 226 cases in which the temperature did rise to fever height—i.e., above 100°-4—we find that in 32 cases, or a little over 7 per cent. (7.5 per cent.), the only cause that could be found for such elevation was a painful and distended condition of the breasts. The temperature rose on an average to 102°4; and in 21 cases, or 65 per cent., the fever lasted more than twenty-four hours, and in one case for as long as five days. It is but right to mention that in a considerable number of cases (13) great distension of the breasts did not cause fever, and in a few cases the temperature was even below normal. In some of these cases of fever from over-distension of the breasts the pulse seemed remarkably slow in comparison to the temperature. The most striking instances of this condition were:—A temperature of 104°.5, with a pulse of 108; 103°.7, with a pulse of 92; 103°.75, with a pulse of 104; 104°, with a pulse of 112; and 100°5, with a pulse of 80. This is the exact opposite of their relation in cases of septic infection, where the pulse is as a rule too high for the temperature. This fact may help us in the diagnosis; but, judging from my own experience, I would say that mere fulness of the breasts is but a very uncertain diagnostic sign between so called milk fever and the more serious puerperal disorders. For I think that if the breasts are already full when the woman is attacked by puerperal fever, the fulness may last for twenty-four hours, and it may be much longer, till the milk disappears entirely. Indeed I think it doubtful whether a slight attack of cellulitis, or transitory septicæmia, has any influence on the secretion. Shortly stated, the conclusions I have come to are:-

1. There is no rise in temperature necessarily accompanying the first secretion of the milk.

2. Pain and distension of the breasts may cause fever; but this fever differs greatly from that generally described as milk fever. It comes on somewhat later and lasts much longer; for, while milk fever is said usually to terminate in from eight to twenty-four hours, this fever, in sixty-five per cent. of the cases, lasts more than twentyfour hours, and does not, I think, so frequently terminate in profuse sweating.

3. The pulse in these cases is often much slower than the tem-

perature would seem to warrant.

4. In cases of fever, during the puerperal state, the presence of full breasts is not sufficient justification for at once diagnosing the case as one of milk fever.

Having thus as it were disposed of milk fever, we are naturally led to inquire what has nowadays become of ephemera, weid, miliary fever, and the seven forms of hydrosis described by Blundell. These are, I think, but the various expressions of surgical fever, or of septicæmia in all its varied forms. This is very nearly the idea put forward by Dr. M'Clintock, in his note to Smellie's chapter on "Milk Fever," in which he also embodies his views about milk fever. p. 411 he says:—"For my part, I believe that many of the cases of rigor followed by pyrexia, commencing about the third, fourth, and fifth day of childbed, and which from being unattended by any marked uterine pain or tenderness, are commonly described under the euphemistic name of weid or milk fever, are really not milk fever at all, but have a septicæmic origin. Extreme distension of the breast may cause some headache and febrile disturbance; these cases are rare, but in my judgment they are the only proper examples of this milk fever."

Before concluding I would wish to draw the attention of the Society to the view held regarding the production of milk fever by Dr. Carpenter, one of our greatest authorities on physiology. He says:-"There is reason to believe that if while the process (i.e., lactation) is going on it be suddenly checked, the retention of the material in the blood, or the reabsorption of the secreted fluid, is attended with injurious consequences. The accompanying fever is partly due, no doubt, to the local disturbance, but in part also there seems reason to believe to the reabsorption of the milk into blood; this cannot but be injurious, since although but little altered the constitution of milk is essentially different, especially in regard to the quantity of crystallisable matter (i.e., sugar) which it contains."* This view is probably founded on the discovery by Blot, in 1856, of sugar in the urine of nursing women, which has been looked on for years by Spiegelberg as diabetes, due to the reabsorption into the circulation of the sugar of the milk contained in the breasts. This view has lately been shown to be correct by Hempel.† He found that the amount of sugar in the urine was in direct proportion to the activity of the breasts. It is therefore a sort of physiological diabetes, and since there was no fever present in any of the cases examined by him, I think we may conclude that so-called "milk" fever is not in any way caused, as Dr. Carpenter seems to think, by the absorption of the sugar of the milk into the general circulation.

Dr. Denham's experience was, that in cases of first children milk fever was more severe and attended with more constitutional disturbance than in subsequent labours. His opinion was that, as a rule, milk fever was more a constitutional disturbance, consequent upon the new secretion about to take place, than anything connected with the formation of the milk itself. In his experience it preceded rather

^{*} Carpenter's "Physiology." Seventh Edition, p. 923. + Archiv f. Gynækologie, vol. viii. p. 312.

than followed the formation of the milk secretion. The milk rigor was only evidence of the formation of milk, but when, with the rigor, the breasts were flaccid, there was much more reason for alarm.

Dr. Henry Kennedy thought there could be no connexion between milk fever and swelled leg, since the former usually occurred within the first three days after delivery, the latter not till the twentieth. The discrepancy between pulse and temperature was found in other acute diseases. He thought the temperament of women played an important part, and some showed feverish symptoms while performing a healthy function, such as the formation of milk, or even menstruation.

Dr. MacSwiney asked why the secretion of milk was accompanied by trouble in some cases and not in others. In a recent able paper by an American physician this had been ascribed to the mistaken treatment of parturient women by the starvation system.

The President had recently seen the case of an unmarried girl, whose menses were quite right, who had something like milk fever,

ending in an abscess of the breast.

Dr. Macan said, in reply, that what is generally known as milk fever is undoubtedly more common in primiparæ. The explanation of this is easy if we believe the fever to be due to the changes in the breasts which precede and usher in the secretion of milk, which would naturally be more likely to produce disturbance in the system when the glands were, for the first time, called on to perform their functions. He had not investigated whether the fever, due to overdistension of the breasts, was also more common in primiparæ. The question at issue is not whether women are or are not often attacked on the third or fourth day after delivery by a fever which precedes or accompanies the secretion of the milk, and which soon terminates in sweating. The old books are full of such observations, and we have no wish to question their accuracy. The whole point is—what is this fever due to; is it caused by the first secretion of the milk? The older writers did not draw any sharply defined line between milk fever and puerperal fever. They nearly all say that if the patient be imprudent or catch cold, or if the milk be driven in on the blood, the milk fever may run into puerperal fever. It has been said that not putting the child to the breast early enough is the cause of milk fever; but Hunter and White said that milk fever was absolutely prevented by not drawing the breasts. The great question is—what is the true explanation of the fever? Of late years it has been shown that a number of causes may produce fever which exactly resembles so-called milk fever. Thus, there is the closest resemblance between so-called milk fever and surgical fever, as described by Paget. The wound in the puerperal woman, to which the fever is due, is either rupture of the perinuem or the more general trauma of labour. If so-called milk fever be found to precede the secretion of the milk, it obviously cannot be due to over-distension of the gland. On the other hand, when the breasts are over-distended we have positive

evidence of inflammation being present, as evidenced by the redness of the skin and the great tenderness on pressure, and it is therefore not difficult to explain the fever which accompanies this condition. Our President has mentioned a case where inflammation of the breast, in an unmarried woman, produced a fever like milk fever. Why then should not inflammation of the breast produce fever in the puerperal state? Even cracked nipples may, as every one knows, cause an elevation of temperature, and Winckel gives a case in which the thermometer from this cause rose to 105°. The diagnosis of so-called milk fever from puerperal fever is, at the commencement, very difficult. This difficulty is greatly increased at the present day from the common practice of removing the placenta by pressure applied to the fundus. For if the pressure be severe, it may cause subsequent tenderness; and if, along with such tenderness, we get a rigor, it would, I think, be a very hazardous prognosis to say that the patient was not getting puerperal fever, even though the breasts were full of milk. With respect to Dr. Kennedy's observation, I think that since the time of Hunter and White the idea that there is any connexion between milk-leg and milk fever has been entirely exploded. Mental emotion has a powerful influence during the puerperal state, and I mentioned in my paper that Professor Carus gives it a place among the causes of so-called milk fever. It is by no means certain that any elevation of temperature accompanies menstruation, for though Dr. Squire says a rise does occur, Professor Wunderlich says there is none, and I prefer to adopt Wunderlich's opinion. In my paper I did not attempt to go into the treatment of so-called milk fever, but I agree with Hunter, that in the great majority of cases no treatment is necessary. White recommends the breasts not to be drawn, and says if they are very painful we may rub them with warm oil; "very generally, however, nothing is required but patience for a few hours, and the case will always end well." As long ago as 1761, Dr. Astruc, physician to the King of France, spoke of pressure as being a common method adopted to prevent the secretion of milk, and strapping the breasts is certainly a most excellent way of preventing the secretion. Starvation has been put down as a cause of so-called milk fever, but I myself have had no experience that would enable me to say whether it be so or not.

THE BRITISH MEDICAL ASSOCIATION.

Annual Meeting, Bath.

The meeting at Bath, though not very largely attended, was yet successful and full of interest, one of the most brilliant addresses being Mr. Wheelhouse's address on Surgery.

SECTION C.

Obstetric Medicine.

President . . A. H. McClintock, M.D., LL.D.

 $\label{eq:Vice-Presidents} \begin{array}{l} \textit{Vice-Presidents} \ \Big\{ \begin{array}{l} \text{J. Watt Black, M.D.} \\ \text{H. Macnaughton Jones, M.D.} \end{array} \\ \end{array}$

Secretaries . . { Heywood Smith, M.D. A. E. Aust Lawrence, M.D.

The business of the Section began on Wednesday morning, the 7th August, with the address from the President, which appeared in the

OBSTETRICAL JOURNAL for September, page 370.

Mr. HENRY GRACE then read a paper on "Unusual and Interesting Cases of Midwifery met with in twenty years' extensive practice.' Among other cases mentioned was one of extra-uterine fœtation where there existed no uterine decidua.

In the discussion, Dr. Routh, Dr. Swayne, Dr. Heywood Smith, and Mr. Napper took part, the latter remarking that in pure country practice the deaths in labour did not amount to more than one in

five or six hundred.

Dr. Routh read a paper on "The Use of Intra-uterine Pessaries, with reference to varieties now employed." He gave an account of the various pessaries and stems combined that had been used for retroand anteflexion, and showed specimens of a new one he had designed, wherein a stem was slung on an india-rubber band across a pessary like a Hodge.

In the discussion, Dr. Marion Sims deprecated the use of Simpson's intra-uterine stem as too rigid, but with Wynn Williams's, Routh's, and others such treatment was safer, as allowing of more

motion.

Dr. HENRY BENNETT protested against the whole doctrine put forward by Dr. Routh, though in his hands it might be less dangerous. He considered such treatment was against all sound pathology and therapeutics; that it produced severe inflammation of the womb, and in such cases it was necessary to reduce the inflammation first before using any instrumental support.

Mr. Donovan also protested against the treatment by intra-uterine

Dr. Heywood Smith drew a distinction between cases requiring instrumental treatment and those where it is necessary to subdue inflammation.

Dr. Swayne read a paper on "The Effects of Forceps Delivery upon the Infant," the object of which was to show that the timely use of forceps had not, in the author's practice, led to any considerable saving of infant life.

The President, Mr. Thomas, Dr. Bradshaw, Mr. Grace, Dr. Weatherley, Dr. Watt Black, and Mr. Simon took part in the dis-

cussion.

Dr. NORMAN KERR read a paper on "Post-partum Hæmorrhage," wherein he put forward the necessity of properly managing the second stage so as to render the probability of hæmorrhage as little as possible, and showed that the reckless administration of alcohol rather tends to encourage bleeding.

The President, Mr. Herbert Morgan, Dr. Heywood Smith, Dr. Swayne, Mr. Nunn, Mr. Thomas G. Bowkett, and Mr. Grace took

part in the discussion.

The PRESIDENT insisted that the administration of ergot, to be useful, should be some time (five or ten minutes) before the hæmorrhage is expected.

Thursday, August 8th.

Dr. A. LIONEL WEATHERLEY read a paper on "Concealed Internal Uterine Hæmorrhage," with special reference to the points of diagnosis in order that the treatment should be prompt and direct.

Dr. Griffiths considered that the special points of diagnosis were

pain, faintness, tension of abdomen, and pallor.

Dr. Macnaughton Jones, Dr. Heath, Dr. Heywood Smith, the President, and Dr. Marion Sims also took part in the discussion.

Dr. Marion Sims read a paper on the "Operations of Simpson and Sims for Stenosis of the Cervix Uteri compared." He first of all referred to all the various metrotomes that were used by different operators—for the most part metrotomes cachées—whereby the operation, a delicate one, was performed in the dark, and severely criticised all such operations as hazardous. He then narrated the various steps by which he had been led to perfecting the operation that bears his name, and then he proceeded to describe the operation. He first of all insisted that the patient should be placed in his position, the semi-prone—i.e., with the chest prone, the head drawn back, the left hand behind the back, the pelvis at right angles to the table, and the knees drawn up. An assistant holds up the right buttock, a Sims' speculum with short blade is then introduced and held by an assistant, a fine tenaculum is then hooked into the anterior lip of the uterus, and by this means it is pulled down to the lower margin of the pubes; while thus in view and within reach of the finger, the posterior lip (in a case of anteflexion) is divided directly backwards with a Sims' knife (which allows of a blade being set at any angle with the handle), and afterwards the angle of the curve on the anterior aspect of the cervical canal is divided for a short depth; the canal is then forcibly stretched by Sims' dilator and a glass stem inserted, the vagina is then partly plugged with alum wool and the patient put to bed and treated with care, and the water drawn off for a day or so.

Mr. Spencer Wells wished to know how many women thus operated on had ceased to be sterile. He was more in favour of dilatation with sponge tents, as he had seen mischief follow the

operation.

Dr. Heywood Smith stated that (except that the metrotome cachée was used) the method of combining incision and forcible dilatation was similar to his father's. He also impressed on the Section the necessity of keeping patients in bed and guarding against all chills, as patients after uterine treatment seemed particularly liable to chill.

Dr. Marion Sims in reply said there was quite a different treatment required for stenosis and for sterility. In the latter case there were many other conditions that have to be seen to and remedied besides the mere stenosis. In cases of version with a straight uterus the bilateral incision is that which should be performed, whereas in anteflexions his operation as above described was the method that

gave the best result.

Dr. Heywood Smith read his paper on "The Treatment of the Pedicle in Ovariotomy." He began by criticising the loose way in which statistics were drawn up, by cases being lumped together without any classification, and thereby became almost useless for reference in the way of guidance for future operators. He then reviewed the various methods that have been employed from the first operation down to the present time. He then gave the percentages of recoveries from the recorded cases of Baker Brown (who had alone classified his cases), Spencer Wells, Thomson, Keith, Knowsly Thomson, and himself, endeavouring to show that the best results had hitherto been with the intra-peritoneal treatment. He concluded by exhorting all operators to record their cases accurately and classify them according to various conditions, as adhesions, &c., so as to lead to more correct statistics.

Mr. Spencer Wells thought that his own cases of cautery were not sufficient for Dr. H. Smith to draw any deductions from, and still

considered the clamp the safest method.

Dr. Heywood Smith then read a paper on "A Case of Ovariotomy during Pregnancy," where he operated on a woman, aged twenty-five, four and a half months pregnant, and saved both mother and fœtus, and justified his proceeding; for if he had (1) let her alone, mischief might have arisen, or she might have aborted, and afterwards a tumour would have had to be dealt with; or (2) if she had been tapped, still she might have aborted, peritonitis might have been set up, and afterwards the tumour would have remained to be dealt with; or if (3) labour had been induced, one life would have been thrown away, puerperal mischief might have followed, and then the tumour would have had to be dealt with, and so he considered as the tumour was large and growing rapidly, after he had waited till such time as he deemed miscarriage was less to be expected, he was doing the best for his patient to operate, and the result has so far justified his prognosis.

Dr. Griffith, Mr. Edward Smith, and Dr. Marion Sims took part in the discussion.

Dr. LAWRENCE read a paper on "Some Thermometric Observa-

tions after Labour," wherein he showed that serous hyperpyrexia

was frequently observed after labour.

Dr. Macnaughton Jones, Dr. Donovan, and Dr. Heywood Smith took part in the discussion, the latter remarking that at the British Lying-in Hospital they did not allow the patients to be seen by their friends till after the eighth day, and at the Hospital for Women he had constantly seen emotion (such as on visiting and operation days) produce a high temperature.

A paper by Dr. Eccles was read on "Chronic Cervico-Endome-

tritis" as a frequently overlooked cause of sterility and abortion.

Friday, August 9th.

A paper by Mr. H. A. ALLBUTT was read on "How to Reduce to a Minimum the Midwifery Mortality," the chief argument being that of lessening labours by lessening impregnation before the age of twenty, or after that of thirty-five.

A paper by Dr. DRYSDALE was read on "Infant Mortality," which ran in the same line, and argued that infant mortality might be

lessened by lessening the number of births.

Dr. Routh then opened a discussion on the evils, moral and physical, likely to follow if practices intended to act as checks of population be not strongly discouraged and condemned. He began by reviewing the various statements that had at times been put forward as to the increase of crime with the increase of population, that child-bearing did women harm, that poverty increased fecundity, that wealth increased lasciviousness, and he referred to the different modes recommended by medical men and others of "conjugal onanism." He enumerated the evils likely to accrue to the woman, as acute metritis, leucorrhœa, hæmatocele, galloping cancer, hysteralgia, ovaritis, and sterility; and the man, prostatic disease and impotency, and ultimately insanity.

The President said he was so satisfied of the downright immorality of such practices that there was not much ground left for

the discussion of the physical evils.

Dr. Henry Bennet considered that much disease arose from the uterus being diseased at time of impregnation. His large opportunities of observation in France enabled him to state that one special means was universally used to hinder conception.

Dr. Marion Sims lamented that such practices existed everywhere, even in girl-schools. He did not consider fecundity was a source of harm to women; but he did consider "conjugal onanism" helped to

fill the asylums.

Dr. Heywood Smith thought some observations were due to the Section from him, as he had heard strictures on the subject having been brought forward. He had taken the sole responsibility of the discussion, and had asked Dr. Routh to open it from his position in London, from his being a God-fearing man, and one of great moral

rectitude. He had determined to try what steps could be taken to stem the tide of immorality that was setting in and that was upheld by some medical men, as they could see by the tendency of the two papers that had been read before them. He considered that the large attendance in the Section (about ninety) was a sufficient answer to any objectors.

Dr. Macnaughton Jones, Dr. Norman Kerr, Dr. Donovan, and

Mr. Toyer also addressed the meeting.

Dr. NORMAN KERR proposed a cordial vote of thanks to Dr.

Dr. Marion Sims seconded it with pleasure, as an American, and

spoke of Dr. Routh as a noble Christian.

The discussion having lasted so long, the other papers were considered as read—Dr. Protheroe Smith on the Pelvic Band, and Dr. G. Griffith on Peritoneal Adhesions as a Cause of Post-partum Hæmorrhage. Dr. Heywood Smith then gave a demonstration of the method of applying Dr. Protheroe Smith's pelvic band.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"The Influence of Posture on Women in Gynecic and Obstetric Practice." By J. H. Aveling, M.D. J. & A. Churchill. Pp. 182.

"Anatomical Outlines." By Arthur Hensman. Part II. "The

Lower Limb." Longmans. 1878.

"The Dull Wire Curette in Gynecological Practice." By Paul F. Mundé, M.D.

"Remarks on Ovariotomy." By J. W. Rosebrugh, M.D. Hamilton, Ontario.

"The Postural Treatment of Tympanites Intestinalis following

Ovariotomy." By Edward W. Jenks, M.D.

"The Obstetric Forceps." By G. J. Engelmann, M.D. St. Louis.

"The Hystero-Neuroses." By G. J. Engelmann, M.D.

"The Functions of the Anal Sphincters so-called." By James R. Chadwick, M.D. Boston.

"Narrowing, Occlusion, and Dilatation of Lymph Channels." By

Samuel C. Busey, M.D.

Communications received from Professor Stephenson, Dr. Louis Henry, Professor Trenholme, Dr. G. Hamilton, Dr. Dolan, and Dr. Godson.

All communications, books for review, letters, &c. for the Editor, may be addressed to the care of the Publishers, 11, New Burlington Street, London, W.

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Original Communications.

A CONTRIBUTION TO OUR FACTS ON PUERPERAL SEPTICÆMIA.

By Thomas M. Dolan, L.R.C.P.E., &c. &c. Halifax, Yorkshire.

I USE the term septicæmia according to the definition of Dr. Burdon Sanderson—viz., as the aggregate of effects which are produced in the animal organism, when putrid matter is mixed with the blood-stream; or, in other words, as a constitutional disorder of limited duration, caused by the entrance into the blood-stream of a certain quantity of septic material.

This definition is a sufficiently broad and intelligible one, and, in my opinion, simplifies our conception of the formidable disturbances of the circulation, temperature, respiration, &c., we meet with in obstetric practice after delivery, whilst at the same time it renders the autogenetic origin of the disease in many cases—as a cause—a matter of almost comparative certainty. Though much has been done to clear up dark points, and though many valuable contributions have lately been made, all leading us on to a truer conception of its etiology and pathology, yet there are still some questions springing from it which open out a wide field for thought and discussion. I need not allude to moot points on causation and treatment, but may refer to one question of an ethical nature.

Puerperal septicæmia is dreaded by every obstetric practitioner, owing to the possibility of its spreading amongst his other patients. Must he desist from practice? Is it his imperative duty to do so?

Are our facts sufficiently strong to formulate a law of compulsory abstention from practice; or, on the other hand, may we have isolated cases of this disease which the practitioner may attend without risk to other patients after adopting certain general precautions?

Are these cases of genuine puerperal septicæmia?

Without entering any further at present on this subject, it will be seen how important, not only to the practitioner, but to society, the ethical problems are, and how desirable it is we should have some defined views to guide us. Practical experience of, and observations on, the disease are of the utmost value in enabling us to deal with this complex problem. My communication may be of some use for this end, as it will embrace not only the history of a case of septicæmia, but will necessarily lead us into some debatable ground in reference to lying-in wards, hospital provision for puerperal cases, and the ethical question I have previously alluded to. In order to render my narrative clear, I must first briefly describe the position, dimensions, and arrangement of the lying-in ward of the Halifax Union, in which this case occurred. It consists of a single chamber, with windows on both sides, and is approached by a separate staircase springing from an open corridor. A bath-room, lavatory, and water-closet are connected with it. Its dimensions are: Length, 25 feet 6 inches; width, 19 feet 10 inches; height, 12 feet 7 inches. It thus affords a total cubical space of 6364 feet, and allowing 1500 feet for each patient: there was room for four beds-the actual number in use. It has been open since 1873, and eighty-five patients had been confined in it, all of whom recovered without a bad symptom. It will thus be seen the ward was not very much used, but our confinements generally occurred in batches of two or three. I must next mention a few facts connected with some of the confinements previous to the occurrence of the case of septicæmia which I am about to relate.

On October 31, 1877, Esther Maria Gilly was delivered of a girl after a natural labour. She recovered without a bad symptom.

On November 24th, Margaret Drake, aged twenty-seven, was delivered with the long forceps of a boy. Though she was a small, stunted woman, in height four feet four inches, and suffering from spinal curvature, her convalescence was exceptionally good.

On December 1st, Mary Ann Braithwaite, aged thirty-five, gave birth to a girl after a natural labour. As she developed some symptoms resembling the results of puerperal poisoning, I must draw attention to her case. On the 2nd she was very well, and on the 3rd her condition seemed as favourable as could be expected. On the latter date I saw her for some time, as I was attending in the ward Elizabeth Cox and Mary Ann Brasy, who were both confined on this day.

On the morning of the 4th, about six o'clock, I was summoned by the nurse to see Mary Ann Braithwaite. I was informed she had been delirious for a few hours, had got out of bed, ran about the room, and alarmed the two other patients who were in the ward with her. She would not have anything to do with her child; the nurse had given it in charge to another woman. I found her in an excitable, feverish condition, with a high pulse (IOI), and high temperature (IO2°), and furred tongue. There was no abdominal tenderness; the lochia were not suppressed.

Afraid of the development of some form of septic fever, I had her at once removed to the only place at my disposal, one of my ordinary sick wards; and this opens out a question to which I shall again have to allude, as to the propriety of placing puerperal patients in ordinary wards. It is a question which we must consider practically as well as theoretically, for though it may be said to favour the dispersion of morbid or poisonous germs, yet in many cases we have no other choice, owing to the construction of our hospitals; so that it simply becomes a question of doing the best under certain dangerous circumstances. After her removal I syringed vagina and uterus with a solution of Condy's fluid,

and placed her on a simple saline mixture, with beef-tea and milk diet.

December 5th, slight improvement; excitability and delirium had passed away, though the temperature and pulse were still high. I again washed out the passages, and determined on giving Warburg's tincture, as I thought it would induce copious perspiration, and relieve the temperature and pulse, as pointed out by Dr. Broadbent in his interesting paper on that medicine in the *Practitioner*, February, 1877. I did not, however, consider it a case of puerperal septicæmia. There was an absence of some of the leading symptoms. I rather inclined to the view that the woman had been fretting over having a child, as she was unmarried, and thought this might account for the delirium. I commenced with the tincture in two-drachm doses, every four hours, giving between some beef-tea.

After the second dose, copious perspiration came on, with a marked amelioration of all the symptoms. I need only say after this she steadily progressed, and on the 16th was up and able to give evidence as to the death of her child, over whom there was an inquest.

From subsequent events the possibility will suggest itself that this woman had to a certain extent undergone a septic process, which was only allowed to spring into activity and was then destroyed, owing to the systemic resistance of the woman, or to the quantity of the virus introduced not being sufficient. This hypothesis I do not consider tenable.

Returning to the lying-in ward, where I had two other patients, Mary Ann Brasy and Elizabeth Cox, I must inform you I adopted some precautions about it, as if I were dealing with a case of septicæmia. The ward was fumigated, the nurse was not allowed to visit it, and the patients were entrusted to the care of another woman, whilst my own personal precautions were of the nature laid down by all our best authorities.

Mary Ann Brasy, confined on December 3rd, went on well, and she may be dismissed from the narrative, whilst I confine myself to the case of her companion, Elizabeth Cox. She was a primipara, aged nineteen, a strong, stout, healthy

woman; her labour was easy and natural, and from the close of her confinement up to the 10th she progressed favourably. On the latter date the nurse informed me that she had complained during the night of feeling chilled, this being followed by an attack of shivering, and subsequent reaction.

I found her in a highly feverish state, pulse 113, temperature 102°, with slight pain over abdomen. She said her head felt heavy and painful. Her eyes were bright and suffused, her breathing accelerated, tongue furred. I had her at once removed into one of my general wards, discharged the other woman into another ward, and locked up my lying-in ward.

I adopted the following plan of treatment. I syringed the passages with a solution of Condy's fluid, and placed her on beef-tea and milk diet; warm, light linseed-meal poultices were applied over abdomen. After administering a purgative I had resort to Warburg's tincture, as there was evidence of a serious and dangerous impression upon her nervous system, as evinced by the temperature, rapid pulse, and extreme frequency of respiration. I gave her two-drachm doses every two hours, undiluted; after the second dose she perspired profusely, and on the evening of the 10th she seemed easier. Temperature still high, urine scanty, and slightly albuminous.

11th. Passed a restless night; worse; pulse 115, temperature 103°; difficulty of respiration increased, though she was free from headache, pain on pressure greater. She complained of feeling very weak, or, as she expressed it, of sinking through the bed. Continued poulticing and syringing. Diet improved by the addition of wine and two eggs beaten up in a little brandy. Evening of 11th. Same way, ordered mixture of ammonia and increased wine.

12th. Worse, lung complication; pulse 120, temperature 104°.

13th. Respiration and pulse almost uncountable; urine highly albuminous. Continued same line of treatment, necessarily stimulative.

14th. In almost a moribund condition. Death took place on the 15th from coma.

The body was taken immediately to the dead-house and placed in a coffin well sprinkled with disinfecting powder, and all the bedding and clothing were at once removed and thoroughly disinfected. I must briefly point out some of the features of interest in this case.

1st. As to the cause.—I believe it was of autogenetic origin, probably arising from the decomposition of a clot and subsequent absorption. The long period after labour of its occurrence strengthens this view. I do not think any contagium had been conveyed to her, as I had not been attending any case of a contagious or infectious nature, nor had my nurse. The sanitary condition of the ward cannot be blamed, for, as I have mentioned, the other women made excellent recoveries. I had of course all precautions adopted to purify the ward. It was not opened again until the 26th of December, when Mary Ann Kellet was confined in it. The windows were kept continually open, the walls and floor were washed with disinfectants, and several kinds were burnt in the room. The floor was constantly sprinkled with McDougall's powder, all the bedding, clothing, &c., were removed to the disinfecting laundry, and were first stoved in Nelson's patent apparatus, and then washed in a disinfectant. Since that time (the 25th) the ward has been used regularly, and all the patients have made excellent recoveries.

2nd. As regards attending other patients.—Fully alive to the responsibility of the obstetric practitioner, under such circumstances I used the most scrupulous care about my hands and clothes.

It is not always possible, especially for a general practitioner, to abandon practice, nor does it seem an absolute necessity, if I may judge by the facts acquired in my own experience. I attended from the 6th of December to the 16th of January thirty-two confinements, not only without any bad result, but convalescence in each case was as rapid as either my patient or myself could desire. Since then I have attended a large number of labours, and there have been no remote injurious effects upon my so doing. I think this removes it from the category of fortuitous coincidences. On this point I may quote the words of Dr. W. S. Playfair:

"Indeed I believe that, in these days of antiseptics, the thorough disinfection of the hands can be so efficiently carried out, that danger from this source can be reduced to a minimum. The principal risk is in refusing to admit the danger and neglecting the necessary precautions; and it is the man who wilfully shuts his eyes to the facts and does not employ the means of disinfection at our disposal, who is most likely to be the unhappy medium of carrying infection. If, then, we see such a patient once in a way, carefully wash our hands in some antiseptic lotion, and avoid touching her with the right hand, or keep a glove on while in the room. There is no reason why we should not continue our obstetric practice, and to insist upon more would be practically to debar us from following our profession at all."

It will be seen that my practice went further than the limit put by Dr. Playfair, as I touched and syringed the patient. I can also quote another case of puerperal fever, in which the

facts are striking:-

In 1868 I had a typical instance of the disease, from which my patient, a primipara, succumbed on the tenth day. Two practitioners, Dr. John Garlick and Mr. Peacock, were attending with me. The former insisted very strongly on my giving up midwifery practice. I refrained from attending labours for some days; but one night three cases occurred in my practice. A brother practitioner kindly attended one; but for the other two I could not find a substitute, so that, nolens volens, I was compelled to go. In both instances the children were born, and I had to remove the placenta. Their convalescence was as happy as could be desired. These results, as bearing on the communicability of infection, are negative; but we cannot afford to disregard them. They must be taken into account in estimating or framing general truths or laws in reference to septicæmia.

3rd. As regards treatment.—Though I tried Warburg's tincture, it had not, unfortunately, as happy an effect as in the unique and interesting case recorded by Dr. W. S. Playfair in the *British Medical Fournal*, November 17th, 1877.

4th. As regards the isolation of such patients.—We cannot dispense with maternities in connexion with workhouses, for

the unfortunate mothers have no other asylum, and we have to accept and afford relief to them, using the hospital accommodation placed at our disposal.

Such patients are generally dirty, badly clothed and nourished, and have been exposed to privations of all kinds. These are therefore unfavourable subjects for confinement. The aggregation of a number of such patients in a lying-in ward might, we would imagine, be productive of greater danger than a healthier and cleanlier class. Before confinement they are, however, cleaner than when admitted, as they are all regularly bathed. As regards mortality, Elizabeth Cox was the first patient whose death could be attributed to her confinement, since 1869, in the Halifax Union lying-in ward.

As I have mentioned, eighty-five women have been confined in the ward I am now using since 1873; so that, according to the returns of Tarnier and Le Fort, who give the Paris maternity mortalities as one to nineteen to twenty-nine, this mortality is proportionately low. It is about equal with the mortality observed at the Maternity at Copenhagen, a supposed model institution, in which each woman is placed alone in a room for her confinement, and where, six hours after delivery, she is removed to another section, and the most scrupulous precautions taken to prevent infection. During the last five years, 1871 to 1875, the deaths at that Maternity were one to eighty-seven. It is highly desirable to isolate such patients as Elizabeth Cox, but practically we can only avail ourselves of the hospital accommodation placed at our disposal; so that I had no other resort but to use one of my general wards. It would be advantageous in many respects if the pavilion plan devised by M. Tarnier were adopted in all new lying-in wards connected with workhouses, and if the guardians could be induced to sanction it. As is well known it consists of a ground-floor and first story, which have no communication between themselves, but all open from the outside. It is so constructed that a single person can exercise supervision over four rooms; and the walls, floor, &c., can be washed and disinfected after each confinement. Though these cells would not be expensive,

yet there are some practical difficulties of an administrative nature which would have to be overcome before the system could be introduced. In Tarnier's plan, if puerperal complications arise, the ordinary medical attendant is not supposed to visit the patient, but the services of another medical man must be secured. In the poor-law medical service there is no provision for such a contingency; so that an important reform would have to be instituted before adopting Tarnier's plan. At present the workhouse medical officer has to combine the duties of physician, surgeon, accoucheur, and apothecary. He has the sole responsibility of the treatment of his patients, for consultations are not supposed to be necessary; so that I fancy there would be some difficulty in the payment of a substitute for puerperal cases.

In conclusion, I may say I do not under-estimate the gravity of puerperal septicæmia or the importance of adopting the utmost hygienic precautions for the protection of the parturient; but I believe, however, the dangers, even of septicæmia, may be reduced to a minimum by the adoption of some such antiseptic and prophylacticas those recommended by Dr. Fritsch. Thus, before making an examination, the hands should be well washed with soap, and the nails well brushed with a solution of carbolic acid, whilst all instruments should be similarly disinfected. Other precautions, particularly as to clothing, should be adopted, as pointed out by all writers on septicæmia.

When we remember the large size of the exposed uterine surface, the abundance of the secretion, the dangers of decomposition and absorption, we cannot wonder at the occurrence of septic poisoning, and we must, I think, congratulate ourselves that it does not occur oftener, and that our puerperal mortality is not higher than it is.

Though we may remedy defective conditions in puerperal management, and may further reduce puerperal mortality, yet the process of child-bearing must always be attended with risk, as accidents and complications will arise against which human foresight cannot provide. Though it is said, and with some degree of truth, that the action of parturition should be natural, and that the uterus should be evacuated

with as much ease as the rectum or bladder, yet we find, although we have this result, other conditions—as constitution, heredity, bad nursing, incaution, autogenetic blood poisoning—disturb the balance. Thus the benefits of a speedy evacuation are nullified by unforeseen accidents. In 1876 I published some remarks in the *Pacific Medical Journal*, amplifying the subject of puerperal mortality, especially in reference to a fact noticed in my own experience, that my midwifery deaths occurred in the simplest cases, after easy and natural labours, and that women in the parturient process are capable of bearing, with comparative impunity, instrumental and manual interference.

These remarks were called forth by a paper of mine in the Medical Press and Circular in the same year, on "Obstetric Operations," to a passage in which the Editor of the Pacific Medical Journal took exception. I mention this, as I have alluded in the above paper to the second case of puerperal septicæmia introduced in the present communication, and as I have also given the results of ten years' midwifery practice, which may be interesting to any one engaged in the comparison of the percentage of operations and mortality in England.

I concluded that paper by saying that my communication, in its results, as bearing on the question of the communicability of infection in puerperal septicæmia, was negative, but that it perhaps strengthened the assertions of Dr. M. Duncan, as expressed in his sensible letter to the Obstetrical Society of London. I consider the present narrative, as regards its facts, has a similar tendency.

CASE ILLUSTRATING SOME POINTS IN THE MANAGEMENT OF TEDIOUS LABOURS.

By Dr. G. Hamilton, Falkirk.

THE following little history of the accouchements of a lady whom I lately attended in childbed illustrates so well the importance of knewing exactly what has to be done in certain tedious labour cases, as well as the need of doing

what is required promptly, that I think the details are worth being recorded, though they present nothing but what may be familiar to most general practitioners.

Mrs. —— is now forty-four years of age, stout, with great intelligence, and a good deal of determination of character and nervous irritability. The particulars of her previous labours have been furnished to me by herself and her husband. Until within the last few years she resided in a provincial town in the west of Scotland, and was there under the care of a medical gentleman, now deceased, who had the reputation of being one of the most skilful accoucheurs in the district; and so much confidence had she in him, that, when about to be confined in 1873, she removed from this neighbourhood in order to be under his care. Nevertheless, the following sketch of her lying-in history, previous to her present accouchement, is rather a melancholy one:—

In 1863 had her first child; labour protracted for thirty-six hours, during about two hours of which she was under chloroform; had ergot; forceps used and head delivered, but shoulders detained so long that child was dead when fully born, though the medical gentleman said that it was alive after the head had passed out of the vagina; large female child.

In 1864 had her second child at nearly the full time, but believes that it was dead for some days before the labour commenced. Had chloroform.

In 1866 she had her third confinement; labour good, and forceps used early; head delivered, the child being alive, but dead before the shoulders could be got free; female child, weighed eleven and a quarter pounds; chloroform used.

In 1867 had her fourth child about the full time; placenta prævia; chloroform; version; cord twice round neck; child dead.

In 1870 had her fifth child, a female, which was born alive, the forceps being used, and chloroform given.

In 1873 had her sixth labour; child male; labour good; chloroform and forceps used; head, as before, delivered while the child was alive, but dead before it was fully born.

Besides these six confinements, this patient has had, since 1863, no less than eight miscarriages, the floodings in some having been serious, and one of them confining her to bed for three months.

With such particulars before me, it may be imagined that I was a little anxious as to the issue of the confinement in which I was called to attend on her; the more so as the liver and bowels had been in a deranged condition for a month or two previously. I was sent for on September 7th, and found that there were slight symptoms of approaching labour. These increased during the evening, and pains continued occurring from 5 P.M. until past three o'clock next morning, when I saw her.

The os uteri was then about twice the size of a crownpiece, and easily dilatable; pains of fair strength. On examination I found the membranes unruptured, vertex presenting, and the pubes at the symphysis slightly projecting inwards, so that the anterior portion of the uterus was caught between this and the head. Shortly afterwards I ruptured the membranes, and for about an hour assiduously pushed up the anterior lip of the uterus, until I got it over the head. I had not to do more in this respect than is usual with me in such cases, but the patient complained of the pain being slightly more than in her previous labours. The head continued to advance slowly, until an ear could be felt a little to the left of the symphysis, where it remained until shortly after 5 A.M. Progress being now very slow, I applied the forceps, and in about a quarter of an hour delivered the head, traction being used only when pains were present. As usual, however, in this lady's confinements, the most difficult part of the labour had still to be gone through, for the shoulders obstinately refused to pass the external parts. I used traction as forcible as I thought compatible with safety to the child's neck; but the resistance refused to yield, and I was therefore forced to wait till I had also the advantage of pains, recurring at what appeared to me much too lengthened intervals. To complicate still further this part of the labour, the cord was round the neck, being dangerously pressed upon by the overstretched parts of the mother. When, with the

assistance of the pains, the child was at length delivered, I found it completely asphyxiated—at first I thought hopelessly so. The funis, however, was beating strongly. Taking advantage of this, I disentangled it from the head, laid the child on the bed, and instantly compressed the nose, and inflated the lungs with my mouth at short intervals, making rapid compressions of the chest between these, in my usual way of treating such cases.* In a short time the child began to breathe stertorously, but the inflation had to be continued for about five minutes and the cord was not cut for about ten minutes, at which time the beat in it was becoming faint. The child afterwards did excellently well. Next day its weight was found to be ten pounds, and it measured eighteen inches round the shoulders. For comparison, I took the measurement of an ordinary sized child, three months old, round the same parts, and found it to be nineteen inches. The mother also made as good a recovery as was possible. Immediately that I got the child out of hands I gave my attention to her, and I noticed that, though the funis had just ceased pulsating, firm supra-pubic pressure on the uterus and gentle traction of the cord, brought the placenta away immediately and easily.

After delivery the lady asked me rather anxiously if the child would be much marked from the use of the forceps, as her daughter, born in 1870, bore marks from the same cause on her forehead even now. My answer to her was that my instrument never left such marks, referring at the same time for corroboration to the nurse, who had just been washing the child, and whose answer both puzzled and amused me: "Nothing particular, sir," said she; "only a few scratches." "Scratches," said I, "my instrument never scratches! Where are they?" On inspection I found that in reality there were several pretty severe scratches, but that they were under the jaw and on the under part of the cheek, and had been inflicted by my finger-nails when pulling away the shoulders. The marks made by the forceps could barely be seen, and next day had entirely disappeared. The

^{*} See Edin. Med. Fourn., May, 1855.

husband assured me that it was the short double-curved forceps that had been used in the former confinements; and, as is usual with this inefficient instrument, I was told that it kept continually slipping. With such an instrument I should inevitably have lost valuable time, whereas my own forceps, thirteen and three-quarters inches long, could be firmly applied at an early stage of the labour.

The second stage of labour lasted here rather more than two hours; and the details given must make it evident that its further protraction, even to the extent of an hour, or less, would in all probability have proved fatal to the child. Obviously this might have been produced in three ways, 1st. The pubes and head catching the uterus might have done so, had I not taken care to push the latter upwards pretty firmly. This is the old practice recommended by the late Professor Hamilton, and which I have followed in the whole of my own practice. I have been rather astonished to hear of objections being made in high quarters to pushing up the uterus, on the two grounds that it is painful to the patient and is apt to tear the uterus. Both I think should be disregarded. The pain to the mother need be only trifling, unless where the hand has to be introduced to push the uterus over the head posteriorly; in which case, should the patient be very sensitive, I would give chloroform and effect it quickly. As to the second, I have never found in my own practice that the slightest injury was inflicted on the uterus.

In the second place, had I given chloroform here the pains, which never were more than fairly strong, might have been lessened, the labour thus protracted, and possibly the asphyxia aggravated.

In the third place, had the forceps not been used at an early stage the labour almost certainly would have been protracted for an hour or two, with I need not say what probable results.

Besides these, we had in this case the stout mother and the broad shoulders of the child, with the cord round the neck, seriously impeding delivery. The dilemma was really considerable: for I became afraid to use more traction, lest

the vertebræ should be dislocated. The pains fortunately assisted me, but time was becoming very precious.

In talking of her case afterwards the mother noticed to me that I had treated the child differently from what had been done in her other labours, slapping the buttocks and dipping the child alternately into hot and cold water having been chiefly relied on. These I never trust to where the asphyxia is severe, but at once inflate the lungs and dash some whisky over the chest. Besides, to have cut the funis while the circulation was going on would evidently have been bad practice.

The result was altogether very gratifying; and perhaps a record of the case may be useful in showing where some of the dangerous points lie in tedious labours.

ON DIGITAL DILATATION OF THE OS IN LABOUR.

By G. W. TRENHOLME, M.D. Montreal, Canada.

THE very important and practical nature of this subject renders it worthy of more discussion than it has hitherto received. The appearance of an able paper by Professor Stephenson in your issue for August, 1878, also an excellent paper by Henry L. Horton, M.D., New York, on "The Pains in First Stage of Labour," in the American Journal of Obstetrics for July, 1878, have induced me to take up the subject in the present brief paper. I may say, at the outset, that Professor Stephenson has ably advocated his view of the question, although it does not seem quite clear as to the way he would have the digital dilatation effected. He states, "The upward pressure must be exerted so as to push the lip of the cervix over the occiput," and yet a few lines further down says, "The part selected should never be the anterior lip." How it could be other than the anterior lip that is to be pressed upward, in occipito-anterior positions, I certainly fail to see. There is another point not very clear-viz., how "the degree of dilatation of the internal os can be estimated

by the condition of the upper portion of the vagina." How is it that "when the former is complete, the latter is also fully expanded and drawn upwards." The muscular tissue of the vagina being continuous with the external muscular layer of the uterus, would not seem to warrant this view.

It seems to be the well-established opinion of nearly all writers upon midwifery that repeated examinations of the os have a prejudicial effect, even moderately gentle pressure being found to cause congestion, followed by heat and a lessening of the secretions. In other words, pressure upon the os irritates. This view of the case is strongly mine own, and I must say I have never known efforts at digital dilatation (per se) do otherwise than cause mischief. In fact, there are but few accoucheurs who have not met in their consulting practice cases where a thick, congested, and inflamed condition of the os has not been the one and sole cause of instrumental interference, and consequent danger to the patient's life. This is especially apt to be the case with midwives, whose small remuneration for their services leads them to hasten, in this way, the first stage of labour. In my own experience the greater part of such cases occur where there are good reasons to doubt the patient's having gone to term. How often does it occur that all the prodromæ of a confinement are postponed for days and even weeks by early administration of a full opiate? At any rate, it occurs so often that we should hesitate to attempt digital dilatation where both the inner and outer os is thick. It has long been known and recognised by the profession that the inner os undergoes gradual and extensive dilatation during the last two weeks of gestation. Surely we have good reason to doubt if any woman has reached term whose os is found to be thick.

Another statement made by Professor Stephenson must be called in question—viz., "that we cannot get any degree of dilatation of the external os without the previous opening of the internal." I have met with cases just the reverse of this, and have notes of such labours during the past few years. In these cases the external os was very considerably dilated—sometimes to the extent of two inches in diameter

—while the inner os (or, perhaps, inner layer of muscular fibres of the neck) was not dilated to the size of a *sixpence*. The pains suffered in such cases were most agonising, but were speedily changed, to the relief of the patient and the hastening of the labour, to a rapid conclusion, by simply peeling the muscular layer off from its attachment to the decidua, and pressing it *back all round*, so as to make it continuous with the already dilated external os. I may say, however, that this condition has not been met by me where the *liquor amnii* had escaped.

I would urge upon those who wish to test these views at the bedside, the necessity of making a very careful examination. In many cases the inner and undilated muscular layer is so thin that it may be mistaken for a thickened decidua, and so escape observation. However, the thickness of tissue between the finger and child's head, and the uneven surface presented to the finger, are sufficient to lead to its detection.

In such cases as these what is wanted is not dilatation, but simply that a thorough separation be effected between the decidua and the muscular layer adhering thereto. When this is done, nature, so far as my experience goes, rapidly and easily completes the labour.

Before leaving the subject, permit me a few words with regard to raising the anterior lip above the pelvis when the os is fully dilated. In the first place, it is only when the os is fully dilated that this can be done. 2ndly. Early attempts but add to the congestion already caused by pressure between the head and pelvis. 3rdly. This manœuvre is specially called for (a) where the thickened os diminishes the anteroposterior diameter of the pelvis; and (b) where, in addition to this, the intense pain caused to the mother by each uterine spasm greatly interferes with the expelling force; and (c) where the concavity of the sacrum is greater than normal. This last conformation allows the head and uterus to descend almost to the floor before extension takes place, and hence is very apt to be complicated with the anterior lip between the head and the pubis.

General Correspondence.

To the Editor of The "Obstetrical Journal."

SIR,—I send notes of a case that lately came under my observation, as I consider it one of unusual interest, and very uncommon. I have never before met with, or heard of a similar one.

On August 10th, 1878, I was asked to see a girl aged thirteen years suffering from profuse uterine hæmorrhage.

The history of the case was as follows:—She had been subject for some years to profuse epistaxis, constantly recurring, and which had reduced her to a very anæmic state, various kinds of treatment had been tried to prevent the recurrence of these hæmorrhages, but with little benefit. She was a very slight girl, of average height for her age, of fair complexion, and very light flaxen hair.

Three months after the thirteenth birthday, discharge of blood from the vagina took place; and was considered to be the commencement of menstruation. As other girls of the same family were usually unwell at the monthly period for over eight days, no advice was sought, although the discharge was very profuse, and the girl very much weakened, and reduced in strength.

On the fourteenth day from the commencement of the discharge I was asked to see her, and found her so weak, that she was unable to stand, suffering from nausea and sickness of stomach, perfectly white and blanched, lips colourless. Pulse 140 per minute, very small and thready. Tongue clean, bowels rather constipated.

I ordered a mixture of liq. secalis cornuti, 3iij; acid. sulph. aromat. 3iij; tinct. opii, 3ij; infus. rosæ, 3vij. 3j secundis horis, and also strong injection of alum water.

On the next day, when I saw her, the hæmorrhage had somewhat abated, but in other respects she was much the same. The sickness of stomach was still troublesome, she had not, however, thrown up the medicine, and had taken some brandy and soda-water, and milk and soda-water.

When I called on the following morning I found that

she had died during the night. No post-mortem could be obtained.

The hæmorrhage had lasted for sixteen days, and was certainly neglected in the first instance, principally owing to the fact that her mother is a monthly nurse, and was absent from home attending a lady, when the hæmorrhage first commenced, and her eldest sisters living with her, aged respectively seventeen and fifteen years, considered it only a case of natural menstruation, one of them usually having her monthly discharge from eight to ten days.

She was not a subject of regular hæmorrhagic diathesis, for I found on inquiry that cuts or wounds always healed well and easily, and epistaxis was the only form of hæmorrhage to which she was subject; neither was there any bleed-

ing from, or sponginess of the gums.

The age of thirteen is not at all an unusual time for menstruation to commence in this country. The earliest case of menstruation, that I have met with, was in a girl of eight years of age, a pale small child, and it came on at intervals of two or three months until it was regularly established at the age of eleven years.

CHARLES J. EGAN, A.B., M.R.C.S.E.

Grey's Hospital, King William Town, British Kaffraria.

Notices and Reviews of Books.

The Mechanical System of Uterine Pathology, Being the Harveian Lectures Delivered December, 1877. By Graily Hewitt, M.D. Lond., F.R.C.P. Longmans, Green, & Co. Pp. 97.

THIS work forms a very complete, and at the same time concise, exposition of the theoretical views on the general principles of uterine pathology for which Dr. Graily Hewitt is so well known. Its special feature of novelty is that it is abundantly illustrated with engravings drawn to the scale of nature, by which the effects of posture and displacement

upon the uterus are demonstrated in a more clear and precise manner than in any previously published. The engravings and the printing together make the book a luxury to read.

The importance of displacements, and especially of flexions, is enforced by powerful reasoning, which cannot but be admitted as well founded. We think that Dr. Graily Hewitt has done much service in attracting attention to the influence of these mechanical conditions, which have doubtless, until recently, been too much disregarded, and are so by some authorities even at the present time. Of special importance are the facts which he has pointed out with regard to abnormal softness of the uterus, the result not of inflammation, but merely of defective nutrition, as a cause of uterine maladies, and the inferences to be drawn from them as to the value of hygienic precautions in prophylaxis.

In this, however, as in other works, he is open to much criticism as to his estimate of the degree of displacement, whether flexion or version, which is to be regarded as of grave moment, and consequently of the relative proportion which displacements bear to other uterine maladies. view is embodied in the first of his three cardinal propositions on the principles of uterine pathology: "Patients suffering from symptoms of uterine inflammation (or, more properly, from symptoms referable to the uterus) are almost universally found to be affected with flexion or alteration in the shape of the uterus, of easily recognised character, but varying in degree." In support of this he reproduces in the present work the statistics derived from the out-patients' room at University College Hospital, and first published in his work "On the Pathology, Diagnosis, and Treatment of Diseases of Women." Out of 620 cases in which an internal examination was made, he found that in 182, or 20'3 per cent., the patients were suffering from fibroid tumour, cancer, or pelvic cellulitis; in 377, or 60.8 per cent., the shape of the uterus was materially changed, or its position markedly changed; while 61, or 9.8 per cent., were set down as suffering from absence, or malformation of uterus, or various symptomatic affections only. It is somewhat astounding to consider that the author not only considers all cases of

endometritis or metritis, actual or so-called, to be secondary to displacement, but that he absolutely finds no place in his nosology even for inflammation of the cervix, which most gynæcologists regard as being a common result of the traumatic influences of labour, or of probable gonorrhœal contagion received in married life, and which they find to form a notable proportion of the cases which come before them.

In therapeutics we think that the author would prove a safer guide than might be expected from the logical issue of his theoretical views, for he recommends the use of pessaries only with moderation, and of intra-uterine pessaries only in special and exceptional cases, while he insists strongly on the employment of rest and of postural and hygienic treatment.

The Influence of Posture on Women in Gynecic and Obstetric Practice. By J. H. Aveling, M.D. J. & A. Churchill. Pp. 182.

The value of these papers of Dr. Aveling, which were first published in the Obstetrical Journal, has received ample testimony from their reception in America and elsewhere, and from their translation into French. We are glad to welcome their appearance in a compact work, which forms an exhaustive monograph on the subject, and which we can recommend to all who do not already possess the complete series.

The author is especially successful in his description of active and passive "hyperemy," with their varieties and relations to each other; and few will read the book without having their ideas extended as to the amount of mischief for which postural errors are responsible, and the great benefit which may be effected in gynæcological practice by a simple attention to this particular. His unfailing historical erudition gives great interest to his account of the part which posture has played in different ages with regard to parturition and its difficulties, and the strange vagaries which have at various times been adopted. He is equally happy in

explaining the true method of obtaining mechanical aid by position and avoiding hindrances in the various stages of labour and in obstetrical operations. Nor does he disdain very carefully and explicitly to establish the fact that the common position of copulation may be fully justified on the highest scientific grounds, and to point out postural remedies for some anomalies in this respect.

Dr. Aveling has endeavoured, not unsuccessfully, to promote precision of ideas by introducing new terms for processes not hitherto explicitly named; and some of these—as, for instance, those of nidation and denidation, to denote the growth and exfoliation of the uterine mucous membrane—have already become widely known. There are some of them, however, by which the uninitiated might, at first sight, be somewhat perplexed—as, for instance, that of "tubulation," by which the author by no means intends to express the formation of a tubular passage, as from the etymology of the word might be anticipated.

Abstructs of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, Wednesday, October 2nd, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

Delivery by Forceps.

Dr. Herman exhibited a child, showing one of the possible results of the use of forceps. A little behind the right frontal eminence was what felt like an irregular gap in the bone, about two inches long by about half an inch wide. This was occupied by a pulsating swelling. The superficial veins in the neighbourhood were larger than on the opposite side. Running obliquely across the skin, over its lower part, was the scar of a laceration, which, according to the medical man who delivered the child, had been undoubtedly caused by the forceps. The child's mother said that a piece of bone had subsequently come away from the wound.

The President suggested that a protecting plate should be used

to cover the aperture.

Dr. Edis said that there was clearly a bony stratum over the brain

and beneath the pulsating swelling.

Dr. Haves said that the pulsation was synchronous with the pulse at the wrist, which proved that it was not pulsation of brain substance. Possibly it was a congenital tumour which had been injured by the forceps. He mentioned a case which had occurred in the King's College Charity. The Obstetric Resident had delivered a child with no want of skill, but with ill-made forceps, having too strong a curve. The right eye was turned out of its socket, and hung down on the child's face. Luckily the child was still-born.

Dr. J. WILLIAMS said a case had been recently reported in a French journal of limited fracture of the skull after the use of forceps. One was reported in the *Lancet* a year ago, in which the child was born by the natural forces without any interference, but a bone of the

skull was fractured in its passage.

The Treatment of Pregnancy complicated with Cancerous Disease of the Genital Canal.

Dr. HERMAN read a paper on this subject. He first narrated two cases which had come under his own care. In one, labour was obstructed by a cancerous tumour of the rectum; the patient was delivered by cephalotripsy, and died from peritonitis. In the other, the cervix uteri was fixed by cancerous disease; abortion was induced at the end of the fifth month; the patient lived seven months afterwards, marked relief to the symptoms having followed the abortion. Then followed an analysis of one hundred and eighty recorded cases, collected from different sources, and classified. From them he drew the following conclusions: 1. That whatever influence cancer of the uterus might have upon conception was adverse to its occurrence. This was inferred from the small number of cases in which the patient was suffering from cancer at the time conception took place, as compared with the frequency of the disease. 2. That cancer of the uterus tended to produce the intra-uterine death and premature expulsion of the fœtus. This conclusion followed from the large proportion of premature births and of not only still-born, but decomposing children. 3. That the growth of cancer of the uterus was, as a rule, accelerated during pregnancy. This was supported by à priori arguments from general pathology, by the analogy of the breast, and by the improvement which often followed the termination of the pregnancy. 4. That with cancerous disease affecting the whole circumference of the os uteri, labour might be quick and easy, and the patient might recover well and live for months afterwards. 5. That when delivery under such conditions was accomplished by natural efforts, expansion of the cervix usually took place by fissuring. 6. That this fissuring did not usually augment the risk to the mother. 7. That imitation of this natural process, by making incisions, neither increased the danger at the time, nor accelerated the progress of the

disease subsequently, and that it often greatly facilitated delivery. 8. That the cases in which the cancer formed a tumour of great size or hardness were the ones in which delivery by natural efforts would not take place. 9. That where the above characters were absent, no definite criteria could be drawn from the local conditions by which to foretell the behaviour of the os uteri during labour. 10. That where delivery of a living child per vias naturales was impossible, such limited experience as we had showed that there was but little difference, as to risk to the mother, between craniotomy and Cæsarian section. 11. That a part of the cervix uteri might with safety be removed, either during pregnancy or during labour. These last eight conclusions were supported by the evidence of recorded cases. The author then considered, from these data, the practice to be followed. He assumed that the life of the mother was the first consideration, and that the production of abortion was justifiable if maternal life could be saved or prolonged thereby. The following were the rules of practice which he thought were indicated: 1. That where it was possible to remove the disease, either during pregnancy or at the time of labour, it ought to be done. 2. That where this could not be done, the safety of the mother was best consulted by bringing the pregnancy to an end as soon as possible. 3. That when labour had actually come on, expansion of the os uteri should be aided by making numerous small incisions in its circumference. 4. That dilatation of the cervix uteri being in progress, if uterine action should be deficient, and it should become necessary to accelerate labour, the use of the forceps was, as a rule, better than turning. 5. That when dilatation of the cervix uteri could not take place, even after incisions had been made, either from rigidity or magnitude of the tumour, Cæsarian section should be performed.

The President considered that the conclusions which Dr. Herman had arrived at were sound and practical. As evidence of the rapidity of the growth of the disease during pregnancy, he remembered a case under his care many years ago at St. Bartholomew's Hospital, of a woman suffering from incipient soft cancer of the uterus. After the husband's return from abroad pregnancy occurred, and rapid increase of the growth ensued, which resulted in abortion between the fifth and sixth months. He would follow the author's views as to the advisability of inducing abortion, also as to the use of incisions, and the preference to forceps over version for effecting

delivery.

Dr. Matthews Duncan complimented the author upon his paper, which he considered of extreme value, as comprising a larger collection of cases for founding direct conclusions than had hitherto been used. He called attention to the well-known frequency of miscarriages in cases of pregnancy complicated with cancer, because this paper afforded valuable evidence that these miscarriages were, in a large proportion, owing to the death of the fœtus. This was particularly interesting at present, as illustrating a matter that was attract-

ing great attention; the influence of anæmia and other cachexies in causing intra-uterine death. He would criticise the author's views as to forceps and version. Following the tendency of British literature he made them out to be hostile, whereas the truth was quite the contrary. The conditions indicating the two were different. The question was not merely one of degree of contraction, but also of the shape of the pelvis, the position of the fœtal head and other matters. There was scope for the two operations in cancer as there was in deformed pelvis. Statistics would always ascribe the least mortality to forceps in both cases, because they were used in all the easier cases, while version was resorted to in extremity. Any inference from statistics therefore required much caution. The so-called "British rule," referred to by the author, to regard the mother's life rather than that of the child ought to be modified in the case of cancer. He had been urged by a mother herself to disregard it.

Dr. Gervis referred to the value of the local application of perchloride of iron solution to the incisions Dr. Herman had advised, both to check the immediate hæmorrhage and to lessen the chance of subsequent septic infection. He also thought that Dr. Herman had somewhat undervalued the efficacy of hydrostatic dilators in assisting delivery in cases of rigidity of the cervix from carcinomatous infiltration. Last year he had performed Cæsarian section in a case of cancer. The patient died in three days. Great extension of the disease along the anterior uterine wall was found, and this had much

to do with the fatal result.

Dr. Heywood Smith narrated a case where an indurated malignant cervix had come away during labour as a ring around the child's neck, the mother making a good recovery. He thought regard should be had for the child's life in the case of cancer, and that if it were possible for pregnancy to go on to full term, it should be allowed to do so on this account. Cæsarian section need not be so fatal in the

future, especially with the antiseptic method.

Dr. Braxton Hicks had never used incisions, but had found the administration of chloroform and the dilating bags together of great value in overcoming the rigidity; he considered the bags preferable to either forceps or turning. The bags would do less damage than would be caused by forcibly dragging the head through by either of these means. He presumed that in recommending incisions Dr. Henman alluded only to the cervix, not to malignant infiltration in the vaginal walls, extensive incisions in which would hardly be suggested. Such a condition of things told strongly in favour of Cæsarian section. He mentioned the case of a woman who was lelivered with cancer extending three parts round the cervix. She ecovered well, and a few weeks afterwards scarcely any disease was iscernible, she died, however, about twelve months after. The shild lately delivered by him by Cæsarian section in a case of cancer vas still thriving.

Dr. Godson called attention to the rapidity with which cancer

spread during the period of involution. He had seen many advanced cases shortly after delivery in which no symptoms of the disease existed previous to parturition. His experience was in support of Cæsarian section in preference to craniotomy. two cases in which he had performed the latter operation in consequence of cancer, the patients had died within a few days of their delivery; both children appeared healthy, and would probably, under other circumstances, have been born alive.

Dr. Edis remarked that, as to the cancerous cachexia proving detrimental to the life of the child, he had recorded one case before the Society where labour came on spontaneously at full term in a patient with extreme malignant disease of the cervix uteri, and where delivery of a healthy living child was effected by the aid of forceps. The mother succumbed with pyæmic symptoms, but the child was

still living.

Mr. Brooks thought that the treatment ought to vary according

to the form of cancer present, whether it were hard or soft.

Dr. Galabin related the history of a very extreme case as an addition to the evidence which had been brought forward, to show that hydrostatic dilators might in some instances afford valuable service. It was one in which the whole circuit of the os was involved in cancer, and after rupture of the membranes at full term, not the slightest commencement of dilatation occurred, the os barely admitting a sound. Dilatation was effected by tents and afterwards by dilating bags, and a living child eventually extracted by bipolar The patient recovered from the puerperal state without more serious symptoms than such as might be considered inevitable. If incisions had been used as a primary step in such a case, they must have been dangerously extensive. He thought the case also was evidence that the half breech after version might sometimes be a safer dilator than the forceps, which could scarcely have been used with safety at the time when bipolar version was effected.

Dr. HERMAN said that as to the use of water-bags the evidence was certainly insufficient, since there were only four cases to compare. But he thought that the dilatation must be by laceration, even when the bags were used, and that, therefore, it was better to obtain the same result by incising, and so avoid the pressure. If pregnancy were allowed to go on, it was not certain that the child would be saved, since it was very apt to die. The child might even be saved by inducing premature labour rather than letting pregnancy continue to term. The case referred to by Dr. Heywood Smith, of the cervix coming away in a ring, he had been unable to find. The antiseptic method might certainly be of some use in Cæsarian section, but nothing to be compared to its use in ovariotomy. The great source of danger was the gaping of the uterine wound and escape of secretions, and this was fatal to antiseptic precautions. By the statistics, the kind of cancer present made more difference than its extent. Even if it were confined to the os alone, and to one portion of it, it

gave great trouble if it were very hard.

Absence of Uterus.

A case of this malformation in a young married woman was communicated by Mr. George Mowat, of Swansea. The patient was twenty-five years old, and married. A slightly coloured discharge was said to have occurred once, but no menstruation further than this, and no molimen. There was a blind pouch two inches deep between the labia, but nothing could be detected of any uterus, examination being made by the sound in the bladder and finger in the rectum.

Dr. Routh did not think it at all conclusive that there was no uterus in this case, especially as a coloured discharge had appeared. There was such a thing as atresia vaginæ. He had had a case of a young married woman, who was destitute of sexual feeling, but very anxious to have a child. The whole hand was passed into the rectum under chloroform, and the uterus found to be absent. This was the only way of making sure.

Dr. Edis thought that two fingers in the rectum and the sound in

the bladder were quite sufficient to establish a diagnosis.

Dr. J. WILLIAMS did not think it necessary to pass the whole hand into the rectum to make out that there was no ordinary uterus present, although some rudimentary trace of it might escape notice.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, February 27th, 1878.

Dr. Wilson, President, in the Chair.

Dr. MacDougal, Carlisle, and Dr. Serdukoff, St. Petersburg, were admitted Corresponding Fellows.

Placenta Prævia, or Unavoidable Hæmorrhage. By Charles Bell, M.D., F.R.C.P.E.

THERE is no complication in midwifery more to be dreaded by the accoucheur than placenta prævia, from the danger attending it both to the mother and child. It has, in consequence, attracted much attention from all the most eminent authorities in midwifery from an early period; yet there is still much to learn and to decide in regard to its symptoms, locality, cause, and treatment.

The older authors considered that its most characteristic symptom was hæmorrhage. Guillemeau, who wrote in 1609, stated that the hæmorrhage proceeding from it was so dangerous that nature was

unable to suppress it.

Mauriceau, the most celebrated authority, states that when the placenta presents, the blood flows in abundance from the womb with many clots, and the woman faints from weakness. Therefore, as

soon as the surgeon ascertains the nature of the case, he should immediately deliver the woman if he wishes to save her life and that of her child.*

Amand reports several interesting cases which illustrate the excessive flooding attending this complication. In the case of a woman aged forty-nine, in the eighth month of pregnancy, the hæmorrhage was so great that she fainted several times, and when Amand arrived, she was thought to be dead.† On examination, he found the placenta presenting, and that it was entirely detached. He delivered the child, but it was dead. In another case the hæmorrhage was checked by means of venesection, astringents, and the use of ice. In a third case, the placenta was entirely detached, and hanging between the thighs of the mother. The child was dead; but the delivery was easy, and the mother did well.

La Motte states, of all the accidents which can occur during labour there is none more perilous than that in which the placenta presents before the child, because it is accompanied by such violent loss of blood that it is impossible for the woman to escape death, unless she

is promptly and skilfully assisted. ‡

Deventer considered that the sign of placenta prævia was the flooding that accompanied it, sometimes in such abundance as to

place the mother and child in imminent danger.

Roederer seems to have been fully aware of the nature of placenta prævia, and clearly describes its symptoms and consequences. Having made some preliminary remarks regarding the various causes of hæmorrhage, he states that the most frequent is placenta prævia (placenta oblata). When this takes place, it is characterised by the following symptoms as labour approaches: hæmorrhage coming on suddenly without any apparent cause; in small streams at first, which soon ceases. It returns again, however, in larger quantity, flowing for a longer space, with little interval. When labour pains come on, it flows in a continued stream, accompanied with clots; and unless sufficient aid is had recourse to, it proves fatal to the mother, the presage of which is the gradual weakening of the pains, which ultimately cease entirely, extreme chilliness, dimness of sight, feeble intermittent pulse, syncope, oppression of the chest, cold perspirations, and nervousness. Some women die in convulsions; others sink from debility.

Portal reports six cases of placenta prævia which were characterised by excessive floodings; two of which were rendered still more interesting and remarkable by the children being born alive after the artificial separation of the placenta. One of the children was asphyxiated when born, and in order to revive it, he informs us that

"'Elementia Artis Obstetricæ," p. 316.

^{* &}quot;Des accouchemens," p. 328.

† "Nouvelles observations sur la pratique des accouchemens," pp. 317, 318.

‡ "Traité des accouchemens," p. 330.

§ "Observations important sur le manuel des accouchemens," p. 180.

he had it placed before the fire, and the placenta, which was still attached to it, put in a pan with wine, and kept warm over the fire; he also spouted some of the best wine into its eyes, nose, ears, and other parts of the face. It was then wrapped up all over in clothes dipped in warm wine, which were changed so soon as they became cool. Bruised onions were held to its nose and mouth, by which means it revived and did very well, as well as the mother.*

Levret states that when the placenta is attached to the superior part of the cervix uteri, the woman cannot escape having hæmorrhage towards the end of pregnancy; and that the flooding increases with the pains, and is more considerable according to their frequency

and acuteness.†

Puzos treats of hæmorrhage in a very cursory manner, although he seems to have been fully aware of its great danger. In treating of preternatural labour, he places it in the first rank of complications; but he does not distinguish accidental from unavoidable. He merely states that of the causes of preternatural labour, the most dangerous is that which is preceded or accompanied by such a loss of blood as places the mother and child in great danger, although the presentation is quite natural. When the hæmorrhage is moderate, and there is disposition in the pains to dilate the os uteri, all that is required is to recommend the patient to keep her bed and not to exert herself; but if the discharge is more violent, which is the case when the placenta is separated either entirely or partially, in such a case the delivery should not be delayed longer than to admit of the performance of religious duties, and in order to allow a diagnosis to be formed. The necessity of delivery is obvious, for without it the death of the mother and child is certain. t

Leroux, in his interesting observations on hæmorrhage in general, reports some remarkable cases of placenta prævia in which the discharge of blood was excessive. He fully understood the nature of the complication, and he adopted the most approved mode of treatment with complete success, so far as the mother was concerned. In one case the hæmorrhage was so great that he was afraid the woman would die before he could deliver her. According to custom, having induced her to confess, he proceeded to turn the child, which presented with the face. He searched for the place where the placenta was separated, and pierced the membranes, and easily introduced his hand and turned. In another case the hæmorrhage continued for fifteen days, and reduced the woman to great weakness. The peculiarity of this case was the difficulty of removing the placenta after the delivery of the child, in consequence of the os uteri being contracted round it.§

^{* &}quot;Compleat Practise of Men and Women Medivives." Trans. from the original, pp. 166-214.

† "L'art des accouchemens," p. 364.

^{† &}quot;L'art des accouchemens," p. 364. ‡ "Des accouchemens," p. 167. § "Observations sur les pertes de sang," p. 100.

Mme. Boivin, who was considered a high authority, states that when the placenta presents before the child at the passage, it always causes excessive loss of blood, which is liable to prove fatal both to mother and child; therefore it ought to be remedied by immediate delivery.*

These references seem sufficient not only to prove the frequency of hæmorrhage in placenta prævia, but to justify the opinion that it was a characteristic symptom of that complication. It is remarkable. however, that while placenta prævia had attracted so much attention, and was so thoroughly understood on the Continent, it was apparently little known in this country previous to the publication of Dr. Rigby's valuable treatise on uterine hæmorrhage, in which he clearly described its nature, and pointed out that there are two distinct forms: the one he designated "accidental," the other "unavoidable" hæmorrhage. He considered that "there is no particular part of the uterus to which nature seems constantly and uniformly to fix the placenta; it is, nevertheless, for the most part, so situated, that if the woman be healthy, and no accident befall her, it does not separate until the full term of pregnancy—nor then, before the entire separation of the child; after which it becomes disengaged from the uterus. and is thrown off, making room for its contraction, which, shutting up the mouths of the vessels, effectually prevents any considerable loss of blood; for which purpose it is plain it must be fixed to some part of the womb which does not dilate during labour, namely, the fundus, or sides of it. In this case, when flooding comes on before delivery of the child, it is obvious that the separation of the placenta must be owing to violence done to the uterus by blows or falls, to some peculiar laxity of the uterine vessels from badness of habit, or fever, or some influence of the passions of the mind suddenly excited, such as fear, anger, &c.," thus producing "accidental" hæmorrhage. "But, from the uncertainty with which nature fixes the placenta to the uterus, it may happen to be so situated that when the full term of pregnancy is arrived, and labour begins, a flooding necessarily accompanies it without any of the above accidental circumstances that is, when it is fixed to that part of the womb which dilates as labour advances, namely, the 'collum' and 'os uteri,' in which case it is very certain that the placenta cannot, as before described, remain secure till the expulsion of the child, but must of necessity be separated from it in proportion as the uterus opens, and by that means an hæmorrhage must be unavoidable."†

The principles here laid down, and the designations assigned to the different forms of hæmorrhage, have been adopted by nearly every accoucheur of experience since they were published. There are some recent writers, however, who not only deny that hæmorrhage is unavoidable, but question the anatomy and physiology on which it

was supposed to depend.

^{* &}quot;Mémoire de l'art des accouchemens," p. 363. † "An Essay on the Uterine Hæmorrhage," pp. 13, 15, 16.

Cazeaux asserts that "although a hæmorrhage is usually considered to be inevitable under the circumstances (placenta prævia), yet it may not appear even during labour, and the dilatation of the os uteri may

be effected without the loss of a drop of blood."*

Barnes supports this assertion in rather a grandiloquent style, in which he impersonates nature in a remarkable manner. After a digression on the treatment of fever, which has no connexion whatever with the subject under consideration, he compares it with the principles of treatment of placenta prævia; he then proceeds to say, "Nature declares, and pronounces emphatically, that the hæmorrhage is not in all cases unavoidable, and progressive in proportion to the dilatation of the mouth of the womb. She protests against the assumption that in this great emergency she is altogether at fault, and powerless to arrest flooding. Let not those who never had the courage to trust her, the patience to observe her, or the skill to interpret her, too confidently deny her power."† After such a passage as this, we naturally expect some convincing evidence in support of it; but in place of that, he quotes a case, which is imperfectly reported, by the late Dr. James Reid, who "was sent for by a midwife to a woman, who, at the full time, had been seized the previous evening with labour pains, which gradually increased in strength through the night, and continued till I P.M.; at the time the os uteri was fully dilated and the membranes ruptured, a much larger quantity than usual of liquor amnii escaped.

"By the account I received, it appeared a fortnight previous the patient had hurt herself by a strain whilst washing, and that since that period she had not felt any movement of the child, a severe pain remaining in the right iliac region. The midwife could not discover any presentation, through the membranes, during the expansion of the os uteri, and was much astonished, on their being ruptured, that she was unable to do so. The only substance she could feel was a soft mass close to the os uteri. [Concluding it to be placental presentation, she sent for Dr. Reid. To his surprise, as there had been no hæmorrhage, Dr. Reid found this conclusion correct.] I found the os uteri fully dilated, and the placenta attached firmly to the pubic and lateral portions, so as to prevent effectually my finger from advancing in these directions. Forcing pains came on during this investigation, they having been trivial all the afternoon. I introduced my hand into the uterus towards its posterior part (a proceeding unattended by any difficulty), and found the hollow of the sacrum unoccupied, advancing the hand still higher above the promontory, I could at length distinguish the child's head strongly encircled by the upper part of the uterus. A foot was seized, and delivery effected. The child was of moderate size, had evidently been dead some time, as the cuticle was desquamating, and the abdomen tense

^{* &}quot;A Theoretical and Practical Treatise on Midwifery," p. 757. + "The Physiology and Treatment of Placenta Prævia," p. 40.

and inflated with air. The placenta was readily brought away soon after."*

Dr. Barnes adds that the above case proves a position I have put forward, namely, that the hæmorrhage in placenta prævia is not "unavoidable."

It must be obvious, however, to every unbiassed observer that it gives no support whatever to this position. It was clearly an example of anterior or "lateral presentation of the placenta," which this author informs us is not, unless under very exceptional circumstances, liable to detachment, or to lead to floodings before the birth of the child.† There was no flooding in this case, because there was

no detachment of the placenta.

Other authors have denied the fact that hæmorrhage is inevitable in placenta prævia, but Dr. Matthews Duncan is the most recent who has done so; but obviously upon equally questionable grounds. He says:—"This accident (hæmorrhage) is common, but many cases of placenta prævia of all kinds do not present it." Therefore he further states his "theory, as explained in the preceding pages, is that the hæmorrhages during pregnancy are accidental, not necessary, and this occurrence is favoured by the extraordinary anatomical conditions existing in placenta prævia, as well as by other circumstances, some of which are known, as the increased pressure of blood above what it would be were the placenta inserted high on the uterine wall."

This very obscure passage proves nothing. There is no evidence that there is greater pressure of blood in placenta prævia than when that organ is situated high on the uterine walls. Before denying or attempting to overturn a fact so generally admitted by all accoucheurs of experience and observation, as that hæmorrhage is unavoidable in placenta prævia, these authors would have done well had they brought forward something more than mere assertion or imperfectly observed cases in support of their hypothesis or "theory," as Dr. Duncan calls it. Were this opinion admitted as a fact, and the suggestion of leaving the case to nature, after partially separating the placenta, acted upon, the results would be hazardous, if not fatal, both to mother and child.

Locality.—The situation of the placenta, which leads to unavoidable hæmorrhage, is a subject of deep interest, and although the idea entertained by the older authors in regard to it was most erroneous, that of many of the accoucheurs of the present day, notwithstanding their more extended advantages, is in many instances most erroneous and unsatisfactory. Under the impression that the fundus was more supplied with blood for the nourishment of the fœtus and for the secretion of the catamenia, the older authors supposed that the placenta was always attached to it; and when found at the

^{*} Op. cit., p. 115. + Op. cit., p. 63. # "Mechanism of Natural and Morbid Parturition," p. 305.

os uteri, that it must have been separated from its original attachment by some accident, such as a blow or fall, or some other injury.* Levret† was the first to point out this error; and remarked that when the placenta was once attached to the fundus it was impossible for it to slip down by its own weight to the orifice of the womb, in consequence of the continued tendency of the uterine walls to contract and the reaction of the uterus contained within the membranes. Some authors of the present day go to the opposite extreme from the ancients, and imagine that the placenta is sometimes attached to the cervix uteri. Even Dr. Rigby seems to entertain this idea, as he says that when the placenta is fixed to that part of the womb which dilates as labour advances, namely, the "collum and os uteri, an hæmorrhage must unavoidably be produced." Dr. Leet frequently refers to the placenta being felt adhering to the neck of the uterus. Cazeaux, in enumerating the different localities of the placenta, says, "finally, we have the term intro-cervical insertion." Barnes not only asserts that the placenta is situated on the cervix, but he gives a diagram illustrating what he calls the seat of the "cervico-orificial placenta." Many other authors might be cited as holding the same opinion, for it is very general, but I consider that those I have quoted are sufficient to show the prevalence of the error, even among accoucheurs of high standing.

While there can be no doubt as to the placenta being sometimes attached to the cervix uteri in early pregnancy, when it is obviously the cause of abortion—a circumstance I have referred to elsewhere, when treating of abortion in the early months, when I reported an interesting case, in which the placenta was found attached to the cervix, and which was the obvious cause of abortion and violent hæmorrhage—it is, however, very questionable if it is ever found attached to the cervix in advanced pregnancy, because, as it becomes developed, as gestation advances, it would act like a sponge-tent, which is the most effectual means of bringing on uterine action.

The question is, therefore, where is it that the placenta is attached in unavoidable hæmorrhage, and why is it that when so situated that hæmorrhage is inevitable? In such circumstances it is attached to the lower segment of the uterus, immediately within the internal os, which it may cover either partially or entirely, and its development goes on as when placed elsewhere pari passu with that of the uterus. During this process there seems to be a mutual correspondence between the two organs, hence there is seldom any hæmorrhage in the early months of pregnancy; but as it advances towards the full time the correspondence in some instances seems to be diminished, or it entirely ceases, while the uterus continues to expand, and consequently a detachment may take place, or the placenta may be so much put on the stretch that its vessels may be ruptured, giving rise

to hæmorrhage—a circumstance which will be more clearly explained when treating of the source of hæmorrhage. If, however, we examine the external surface of the placenta, we will discover how wisely and beautifully this accident is provided against, in ordinary circumstances, by its cotyledonous formation. It is important to observe that its cotyledons are each supplied by its individual class of vessels, forming, as it were, a miniature placenta,* and that they are so constructed as to admit of a certain degree of expansion without injury, by which means the placenta is enabled to adhere more closely to the walls of the uterus, and to accommodate itself to its altered form.

But if the placenta is liable to be put on the stretch, and in consequence its cotyledons readily separated when placed on the lower segment of the uterus, it may be asked, How does the same thing not take place when it is placed higher on the walls of the uterus when uterine action comes on? This is easily explained, as the uterine contractions affect it differently, according to its locality. When it is attached to the higher parts of the uterus, the contractions, acting in a perpendicular direction, have the effect of shortening the uterus, and consequently draws the cotyledons more closely together, on the same principle as pressure acts on a sponge; whereas, when the placenta is situated on the lower segment of the uterus, the effect of the contractions being to dilate, the inevitable result will be to separate the cotyledons as labour advances; and hæmorrhage will follow, especially in central placenta prævia, when the fætal head descends and presses against it, making it bulge downwards. is more particularly likely to take place when it is deprived of the support of the cervix by its being dilated. This is illustrated in Dr. Hunter's valuable plate of placenta prævia, in the description of which he says, this is "a view of the womb and vagina fully opened on the back part to show the situation of the child, and the lower part of the placenta at the inside of the mouth of the womb under the child's head, and detached from the womb, the occasion of fatal hæmorrhage."

That was evidently a case of central presentation of the placenta, which was apparently attached above the internal os; but, judging from the engraving, there is no indication of its having been attached to any part of the cervix. In order to satisfy myself on this point, however, I went to the Museum in the Glasgow University, for the purpose of examining the preparation, but I was much disappointed to find that it was not there; but I found another one which goes far to prove the correctness of the opinion I have prepared above—namely, that the placenta is not attached to the cervix in advanced pregnancy. It is a beautiful preparation, which represents nearly a complete central presentation; but the portion which crossed the internal os, although it bulges down into the cervix, gives no indication of having been attached to it. It is perfectly smooth and covered

^{*} Levret, op. cit., p. 38.

with a membrane which completely conceals the cotyledons, and giving the external surface the same appearance as the feetal surface. The cervix which is dilated is also comparatively smooth, and there is not the slightest vestige of uterine vessels with open mouth, as there would have been had the placenta been torn from it. But there was at the posterior part of the placenta, as represented in the preparation, a ragged tuft hanging down, which may have been the immediate source of the fatal hæmorrhage—thus verifying to a certain extent Sir James Simpson's opinion that the placenta is frequently the immediate source of hæmorrhage. That eminent accoucheur was mistaken, however, in supposing that in order to the placenta becoming the seat of hæmorrhage it was necessary that it should be detached, to a greater or less extent, from the uterus. He states, "When the placenta is partially separated from the uterus there are two surfaces left exposed by that separation, namely, a portion of the internal surface of the uterus, and a portion of the external surface of the placenta. According to the usual explanation, such as I have shown it to be, the hæmorrhage is supposed to proceed from the first of these exposed surfaces, namely, that of the uterus. On the contrary, I am assured of opinion that it chiefly, and in most instances entirely, proceeds from the other surface, namely, that of the placenta." This is not an original idea on his part, however, as he seems to have borrowed it from his predecessors in his chair, as he says, "I feel convinced that the pathological opinion on this point advocated by the late Professor Hamilton is the correct explanation." After citing the opinions of Drs. Davis, Dewees, and Ingleby in reference to the origin of the hæmorrhage from the exposed uterine surface in unavoidable and accidental flooding, Dr. Hamilton observes:—"Many other authorities may be quoted to prove the common opinion upon the subject; and yet the author, from the earliest period of his professional life, has been anxious to show that hæmorrhage in these cases proceeds from the separated portion of the placenta more than from the ruptured uterine vessels."*

Dr. Matthews Duncan seems fully to entertain this opinion, as he states, "For my part, relying partly on my own observation, I believe such hæmorrhage to occur most frequently from the placenta."† But, in explaining the fact, he inconsistently says the hæmorrhage is occasioned "by rupture of the utero-placental vessel at or above the internal os uteri;" or, "by rupture of a marginal utero-placental sinus within the area of the spontaneous primitive detachment when the placenta is inserted, not centrally or covering the internal os, but

with a margin at or near the internal os."

There is an obvious contradiction in this passage; for, if there is hæmorrhage from a sinus within the area of "spontaneous detach-

^{* &}quot;The Select Obstetrical Works of Sir James Simpson," p. 219. + "Mechanism of Natural and Morbid Parturition," p. 306. ‡ Op. cit., pp. 306, 307.

ment," there must unquestionably be a separation of the placenta from the uterus to a greater or less extent; otherwise, the blood must find its way through the membranes where they join the placenta, which would be rather a difficult matter, when we consider their natural toughness and their firm adhesion to the edge of the placenta.

But there may be a partial detachment of the placenta during the natural development of the lower segment of the uterus to which the placenta adheres, proceeding either from a delicacy in the adhesion, or from an unusual resistance on the part of the cotyledons, which prevents their separating so as to allow of the placenta accommodating itself to the increasing size of the uterus. This usually first takes place about the sixth month, and it may recur from time to time, more especially at what should be a monthly period, until the full term of pregnancy, when the loss of blood may be rendered more profuse by the labour pains separating the placenta to a greater extent, and exposing the mouths of a greater number of uterine vessels.

In making these remarks, I am aware that I am opposing Dr. Duncan's theory that the lower segment of the uterus, or hemisphere, as it is called, does not become developed until the end of pregnancy; and that even within a few weeks of the full term, he states that the internal os will admit little more than a bougie; but this is totally at variance with my own observation, and with the opinion of the highest authorities on the development of the uterus, and particularly with Dr. Hunter's splendid engraving of the gravid uterus—although quite in accordance with another of this eminent accoucheur's theories, namely, that the fœtus at the full period of pregnancy is so fitted to the uterine cavity, that it cannot change its position. states that "as the fœtus approaches the full time, it becomes in size and form more and more adapted to the cavity in which it was contained; so that at last the containing cavity and the fœtus were, as a general rule, so fitted to one another, that any such extensive motion as was involved in the change from a breech to a head presentation was impossible."* These remarks were made in reference to a case of mine, in which I stated that the fœtus had obviously changed from a head to a breech presentation in the eighth month, in consequence of a sudden mental impression made on the mother, and that the fætal head was retained in its high position, apparently, by the cord being twice round the neck.

From what I have stated, it is obvious that there are two distinct sources of hæmorrhage in placenta prævia, namely, the placenta itself and the uterus, and it would be an important point in practice could they be distinguished, as it might lead to more satisfactory treatment. This circumstance, however, will appear more clearly when considering the treatment; but in the meantime it will be interesting to investigate what is the most likely cause of the com-

plication.

^{*} Association Medical Journal, 22nd June, 1853.

Cause.—Various opinions have been entertained on this subject. The older authors, as has been already stated, imagined that when the placenta was found at the lower part of the womb, that it had been displaced by some shock from its original attachment at the fundus; but the opinion which has been most generally entertained in the present day is, that the ovum is not impregnated until it has reached the lower segment of the collum,* which is a very likely circumstance, and therefore may be the most frequent cause; but other causes have been assigned, which are well worthy consideration. The one is clearly indicated in Sir Edward Home's interesting paper on the passage of the ovum from the ovarium to the uterus, in which it is stated that the ovum had passed directly into the womb, there having been no apparent decidua covering the entrance of the Fallopian tube, and the ovum was found "concealed among the long fibres of congealable lymph near the cervix."† A similar case is reported by Dr. Lee, who informs us "that in the body of a woman who had poisoned herself in the third month of pregnancy, he found both Fallopian tubes pervious, and the ovum being attached by the placenta to the inferior segment of the uterus, it was obvious that it could not have pressed before it the decidua reflexa in the manner usually represented.‡

This important fact received no particular attention until it was brought prominently forward by Dr. Doherty, in his excellent paper read before the Dublin Obstetrical Society in 1845, in which he says, "The occurrence of full placental presentation, where that substance springs from the whole disc of the mouth of the womb, is, I believe, referable to deficiency in the decidua, which should naturally extend across the orifice of the Fallopian tubes, and the absence, consequently, of the support which ordinarily it is thus enabled to give to the ovum. The frequency with which placenta prævia occurs in some women would lead us to infer that the deficiency of the decidual covering of the orifice of the Fallopian tubes is not always accidental, but may proceed from a natural defect in the uterus

which renders it unfit to form decidua at that point."

While deficiency of the decidua may thus be considered a cause of placenta prævia, a like result may probably arise from preternatural delicacy of the decidua, by which it is rendered unable to support the ovum on its arrival in the uterus, or that its weakness induces it to yield easily to any severe shock occurring previous to the ovum being securely attached to the uterus, when it would naturally fall to the more dependent part of the uterus. But these speculations are more interesting in a physiological point of view than practically

^{*} Dr. Read on "Placenta Prævia," p. 37. + Philosophical Transactions of the Royal Society of London in 1817, part i. p. 254.

[‡] Medico-Chirurgical Transactions, vol. xviii. p. 493. London. § Dublin Journal of Medical Science, vol. xxvii. p. 333.

useful; because, whatever may be the cause of the complication, it

cannot be prevented by any human means.

Treatment.—There has hitherto been a remarkable degree of empiricism in the treatment of placenta prævia, arising apparently from its alarming and dangerous character, which has induced some practitioners to endeavour to check the flooding without delay, even at the sacrifice of the child's life. Many remedies have in consequence been adopted, but the first in importance is the artificial delivery of the child by turning. This operation was first suggested by Ambrose Paré, and afterwards strongly advocated by Guillemeau, and it has been considered the most valuable remedy by the generality of the profession since his time, and it is certainly the most advisable when the os uteri is sufficiently dilated or dilatable to admit of its being performed, more especially if the woman has stamina enough to undergo the operation, and there is an obvious tendency in the uterus to contract. Should there be no evidence of uterine energy, however, it will be necessary to have recourse to stimulants, and the ergot, given either by the mouth or by subcutaneous injection, in order to rouse the uterine energies if possible before attempting the operation. But some accoucheurs have objected to artificial delivery, from its being liable to be followed by fatal consequences. There is too much reason to believe, however, that these results are more frequently produced by its being injudiciously performed than its inherent character. Nevertheless, the prejudice against it has led to two other operations being suggested as a substitute for it: the one by Sir James Simpson, the other by Dr. Barnes. The operation suggested by Sir James Simpson is the entire separation of the placenta, which he so strenuously advocated that some practitioners, ignorant of the history of the subject, have supposed that he originated it; but he only revived it, as it was performed by Portal two hundred years ago, and the success attending his operations seems to have induced others more recently to practise it; the most celebrated of whom, previous to Sir James Simpson, was Mr. Kinderwood, who reports several cases, some of which were successful, so far as the mother was concerned; others were fatal to both mother and child. It is very questionable if the cases in which the mothers were saved would not have been equally successful had turning been adopted in place of entire separation of the placenta, when in all probability the child might have been saved.

The argument used by Sir James Simpson in support of this operation is in many instances quite untenable, as it goes on the ground that hæmorrhage "chiefly, and in most instances entirely, proceeds from the other surface, namely, that of the placenta;" "or, perhaps, more properly speaking, of one large maternal vascular bag, into which the blood of the mother is conveyed by the utero-placental

arteries,"* and by its removal the hæmorrhage would cease.

^{*} Op. cit., p. 219.

Upon this principle the placenta might be compared to a reservoir supplied by many pipes, and from which, when injured, fluid might escape; but, unless a check were put on the supplying vessels, its mere removal from its locality would not prevent the drain upon the source from which the fluid came; neither will the separation of the placenta check the hæmorrhage from the uterus, unless it has energy enough to contract on its vessels, so as to prevent the circulation through them after the placenta is detached. Therefore, if the patient is so exhausted that the uterus cannot act, this operation is equally hazardous to the mother as turning, while it is almost certainly fatal to the child.

Dr. Radford, who seems to be favourable to this operation, says -"I conclude that on a complete separation of the placenta the hæmorrhage is immediately and completely suppressed, provided the uterus is in a condition so far to contract as to force down the head with the placenta upon the uterine openings."* This is a very erroneous idea, as a little observation will show that the feetal head is ill adapted to act as a plug; and no internal pressure would have the effect of suppressing the hæmorrhage, which can only be overcome by the same action on the part of the uterus and its vessels

previous to the birth of the child as takes place after delivery.

Dr. Barnes, while he strongly objects to the entire separation of the placenta, advises another operation on the same principle, which has for its object the extension of the partial separation of the placenta, then leaving the case to nature. Now, experience shows that the great cause of anxiety on the part of the accoucheur, and danger to the mother and child, is partial separation of the placenta, in some cases even to a limited extent; yet, this author considers that by this operation "the case is resolved into a natural labour." He founds this remarkable opinion on the supposition that "there is then an anatomical or physiological limit to the extent of placenta liable to detachment during the expansion of the womb;"† and that he has discovered that limit, and can discriminate it during labour, and he designates it the "cervical zone," "the region of dangerous attachment," and by separating the placenta from it hæmorrhage This is, however, a mere hypothesis, as there is no part of the uterus from which the placenta can be separated artificially without the danger of hæmorrhage, unless uterine contraction immediately takes place. Therefore this operation is equally, if not more, hazardous than the one recommended by Sir James Simpson.

The only tenable argument which has been used in favour of either of these operations is that they can be performed with less shock to the mother, and require less manipulation, or manual violence as Barnes calls it, than artificial delivery. But this is a mistaken idea. For, in the first place, the os must be dilated to

^{*} Prov. Med. and Surg. Journ., 1845, quoted by Dr. Barnes, p. 46. † Op. cit., p. 54.

considerable extent before it is possible to introduce the finger sufficiently for the separation of the placenta; and, unless there is great tendency to detachment on the part of the placenta, a considerable degree of force will be required to effect it. This is verified in Dr. Reid's case, formerly referred to, in which he could not force his finger into the anterior part of the uterus to which the placenta adhered; and every one must have experienced the difficulty of separating the placenta in hæmorrhage occurring after the delivery of the child.

There are other remedies which have been deservedly appreciated in unavoidable hæmorrhage, namely, plugging and rupturing the membranes, both of which are most beneficial in the cases suitable

for their employment.

Having referred to the most important remedies which have been employed in placenta prævia, it now remains to decide in what cases they are most likely to be useful; and this is the most difficult part the accoucheur has to perform, and his success will, in a great measure, depend on his forming a correct diagnosis. If the os uteri is small and rigid, this will be rendered a very difficult matter. Therefore our duty will be, in the first place, to have recourse to plugging, until this state of the os is overcome; and the best kind of plug is the india-rubber bag filled with air, which Dr. Keiller had the merit of introducing into midwifery practice. This is infinitely superior to "Dr. Barnes's bags," as they are called, which are filled with water. The bag filled with air not only affords a light and good support, but it enables the accoucheur to ascertain if the hæmorrhage is still going on, and it is easily applied; whereas, if a sponge or handkerchief is employed, it is introduced with difficulty, and the blood is prevented escaping, so that the accoucheur is kept in the dark as to the continuance of the hæmorrhage, unless the general condition of the patient enlightens him.

If the labour pains are active, it will be desirable to remove the plug to ascertain what progress has been made in the dilatation of the os, and if it is sufficiently dilated, or easily dilatable to admit the hand, and the child has been ascertained to be alive, and the hæmorrhage profuse, there ought to be no delay in delivery by means of turning. But if the child is dead, and the mother much exhausted, it may become a question if the entire separation of the placenta may not be attempted, especially if there is a natural tendency to its being detached by the uterine contractions. If the os uteri is not sufficiently dilated to admit of either of these operations, and if the case is one of central presentation, the plug should be again employed, as it is probable that the hæmorrhage is caused by the placenta being put on the stretch by the pressure of the child's head, and the support afforded by the plug may have the effect of checking it until labour is further advanced. But if it is a partial presentation, and the distended membranes are found occupying the entire disc of the os, rupturing them may have the effect of checking the hæmorrhage, by

allowing the uterus to contract on the vessels from which it was flowing, just in the same manner as takes place when they are ruptured in accidental hæmorrhage. In regard to Barnes's operation, I cannot

imagine any case in which it would be justifiable.

Dr. MACDONALD stated that, while gladly admitting the great amount of important information and historical details which Dr. Bell had compressed into his paper, and while, at the same time, expressing the pleasure with which he had listened to the paper, there were numerous points in the various positions taken up by Dr. Bell that he felt bound to dissent from. Placenta prævia was a subject so vast, and the disputed points in it were, many of them, still so far from solution, that it could scarcely be expected that unanimity should exist regarding it in a Society such as this, where each member fearlessly upheld whatever views he thought most correct on the subjects discussed. He might be allowed to remark in the outset, on the historical aspect, that Dr. Bell, while referring to the justly high claims of Paul Portal, had omitted to notice that Schacher of Leipsic, who wrote only a very few years after Paul Portal, was the first to describe the true anatomy of placenta prævia, in a dissection which he made of a patient who died of placenta prævia. The labours of Von Hoorn, a pupil of Paul Portal, were also very important, and had been omitted; whilst no notice was taken of the fact that Smellie knew well the nature and treatment of placenta prævia, though the labours of his French contemporary Levret were duly recorded. It is, however, the fact that the general profession in this country were not acquainted with this accident till the publication of Dr. Rigby's paper, referred to by Dr. This was in 1775. As to the relation between accidental hæmorrhage and the hæmorrhage arising from placenta prævia, he felt bound to differ entirely from Dr. Bell. He held that the bleeding of placenta prævia before the onset of uterine contractions was always of the nature of accidental hæmorrhage; and that only after the lower uterine segment became stretched in connexion with the development of the cervix uteri, under the action of the uterine contractions, an occurrence usually restricted within ten days before, and at times even to the onset of labour, did the hæmorrhage become a necessity—i.e., unavoidable. He thought much unfortunate mystification had arisen in consequence of this, which he regarded as a physiological fact, not being generally admitted. He could not follow Dr. Bell in his difficulty of understanding how the conditions favouring accidental hæmorrhage were not more pronounced when the placenta is low placed than when it is higher up, as given in his quotation from Dr. Duncan. It must be remembered that the contents of the placental vessels are subject to the ordinary laws of hydrostatics, and that every point, that is, say an inch vertically deeper placed than another point in the placenta or uterus, must be subjected to a pressure greater than the latter point equal to a column of blood an inch high, no matter in what direction its surface is distributed. Then,

however little the inner os may dilate during pregnancy, its lumen must always present a more or less unsupported surface, and one, too, as already said, subjected specially to great tension from its deep situation. He was extremely glad while making these critical observations, in which he was compelled to differ from Dr. Bell, to be able to say that he entirely agreed with him in his statement that the placenta is never attached to any part of the canal of the cervix, but only over the inner os and on the lower uterine segment. As to the view of those authors who hold that the hæmorrhage arises from disproportion between the growth of the placenta and the lower uterine segment in the latter months, and which is held by Dr. Bell to be correct, he was sorry to say that he had never been able to see convincing proof of its truth. If such were the case, we should always have bleeding in placenta prævia during the latter three months, and yet such is not found to be the fact. The very last case he was called to deliver on account of placenta prævia was one in which the patient though close upon the full time, had no hæmorrhage whatever til the night before she was delivered. It will not do to say that suc' bleedings took place, but did not find exit, for then we should fine thrombosed and atrophied portions of the placenta after delivery, as indicative of these, and yet such are not found except very rarely. He could not see how the cotyledonary arrangement in the placenta had any bearing in the production or the prevention of hæmorrhage; and so far as the statement that Dr. Bell made, that the uterus in the higher parts of its body shortened more in the perpendicular direction than the lower segment did when it contracted was concerned, and thus simply compressed the cotyledons, he had to state that he thought the reverse was the fact; for though the uterus was distended and stretched transversely in the lower segment during labour, it was unquestionably contracted in the perpendicular direction. He could not help feeling that Dr. Duncan's views had been, unintentionally no doubt, misrepresented by Dr. Bell when he stated that Dr. Duncan believed that the bleeding in placenta prævia during labour was from the placental and not from the uterine surface. Indeed, he knew well that Dr. Duncan was at one with Dr. Bell in maintaining that the main bleeding came directly from the uterine surface, and not intermediately through the torn-off placenta, which, as stated by Duncan, by Spiegelberg, and others, became rapidly thrombosed and incapable of bleeding. He could not help feeling that Sir James Y. Simpson, in taking up the idea that the bleeding was from the free placental surface, was led to this view from the necessity he found himself placed in to give some explanation of the treatment by complete separation, to which he had rashly become committed. Dr. Duncan, in the remarks quoted in this reference by Dr. Bell, was, he rather thought, not then referring to hæmorrhage, when a considerable portion of the placenta was opened into, at all, but was speaking of the hæmorrhage arising accidentally before labour, when only a single twig of an artery, or a single placental sinus possibly, was torn.

As to the state of the lower uterine segment during the latter months, and the relation between it and the cervix, he felt constrained to say that Dr. Duncan's views, animadverted upon by Dr. Bell, were not at all singular. They agreed with those of almost all Continental obstetricians of the present day, with the sole exception of Bandl, and were in accordance with those of the majority of British authorities. He (Dr. M.) had endeavoured last summer, by presenting before this Society the section of a uterus of a woman who died suddenly after she believed herself in labour, and certainly at the full time, to show that the cervix was intact, and in no sense used up in the amplification of the lower uterine segment. This using up of the cervix he held, and endeavoured to prove in this paper, did not usually commence till ten or fourteen days before labour, and frequently not till the onset of labour pains; and it was not till this commenced that such an amount of stretching of the placental attachment took place as led to tear of the placenta, and consequently produced unavoidable hæmorrhage. He also thought that Dr. Bell was wrong in denying that there was any tendency towards a physiological limit of the hæmorrhage in placenta prævia. He (Dr. M.) thought there was, and that when the separation of the placenta resulted from physiological stretching in the transverse direction, and shrinking or contraction of it in the longitudinal direction, that the uterine surface was generally so altered as to prevent further bleeding from the bared surface of the uterus. Except this were true, he could not understand how, in cases of partial presentation of the placenta, when a lappet of the organ merely projected downwards within, what Barnes calls the cervical zone, and Duncan, the spontaneously detaching area,—the bleeding, though at first very profuse, after the cervix had been dilated to a considerable amount, so frequently ceased altogether. He accepted, in explanation of this fact, the mechanism propounded by Duncan-viz., that the bleeding was caused by the separation of the placenta, resulting from the necessary stretching required to transform the hemispheroidal lower uterine segment, with the inner os as its pole, into a horizontal circular band of the uterine body, whose diameter should be able to give passage to the child's head—i.e., should be of about four and a half inches. When that amount of diameter was reached, there was no further need of, or tendency to, placental separation, and consequently the tendency to bleeding by further tearing ceased. And if by this change of surface in the lower uterine segment—call it stretching in the transverse direction, with contraction or shrinking in the longitudinal, or whatever else you please, had once taken place, and the bleeding had been arrested by nature's method of separation, the hæmorrhage must necessarily cease. For the establishment of correct views on this point, he thought we owed much to the labours of Barnes and Duncan, but especially to those of the latter author, inasmuch as he, not only more clearly than any other writer, had explained the mechanism of separation, but by actual measurements had shown

that the requisite amount of dilatation was reached when a portion of the lower uterine segment, measuring meridionally on the organ a distance of two and a half inches from the inner os, was converted into a cylindrical segment of the genital passage. He thus freed us completely from all the difficulties regarding zones, which were extremely hard to define, and at the same time proved the spontaneously detaching area to be limited within a measured space. while holding, that when the separation was effected by natural forces, there was a tendency to spontaneous arrest of hæmorrhage, he could not agree with Barnes in his practical suggestion to separate the placenta from the cervical zone, as he calls it, by art. He considered such a proceeding to be both extremely uncertain and dangerous, as we could not be sure that bleeding would necessarily cease from the surface of the uterus thus laid artificially bare; and, moreover, the process of separation was certain to be accompanied with profuse hæmorrhage. He would not detain the Society with any further remarks, though he should have liked to have made some observations on the treatment proposed, as he thought he had trespassed too much upon their time already, but would simply conclude by again stating that, though obliged to dissent from the views of Dr. Bell on many points, he had listened with much pleasure to the paper, and felt the Society was much obliged to Dr. Bell for the ability and trouble he had expended upon this ever interesting and ever new subject.

Dr. Keiller said we were indebted to Dr. Bell for his elaborate paper. He felt he had much to say on the subject of placenta prævia, which had been so often discussed, and yet so seldom had been anything like mastered. The present meeting was comparatively a small one, and if anything new could be by any chance brought about through a full consideration of Dr. Bell's historical and otherwise interesting communication, it would be well to postpone its discussion until the next meeting, when several absent members might have an opportunity of giving the Society the benefit of

their experience.

Dr. RITCHIE desired, while expressing his satisfaction with Dr. Bell's paper, and after the observations of the other speakers, to offer a few remarks on treatment. He agreed with Dr. Bell as to treatment, for he did not consider turning the only method of dealing with these cases, but that each case should be treated on its own merits. Most of the candidates who presented themselves for examination for the licence of the College of Physicians gave the same reply when questioned as to treatment—first plug and afterwards turn. This reply seemed to indicate that teachers dwelt upon these two points, to the exclusion of other means. He was therefore pleased to hear Dr. Bell's views upon it, for, when a younger man, following that treatment, he recollected having once lost a child in partial placenta prævia by turning, which he now believed might have been saved had he employed the forceps.

Meeting, Wednesday, March 13th, 1878. Dr. Wilson, President, in the Chair.

Professor Simpson exhibited a channelled polypus, similar to those Dr. Underhill had described lately to the Society. The woman, a patient of Dr. Craig's, was sixty-four years of age, and unmarried. She had ceased to menstruate for many years, but had for some time become subject to frequent losses of blood. The polypus was attached to the posterior lip of the cervix, and was removed by scratching through its attachment with the nail. A good deal of bleeding attended the operation, although the vessels were torn instead of being cut across, so that a pledget of cotton, soaked in perchloride of iron, had to be applied to arrest it.

Professor SIMPSON exhibited an abortion about the ninth week. The patient had before been delivered of twins, and when carrying these, she had been also threatened with abortion. On this occasion he had been requested to see her on account of hæmorrhage. The uterine mucous membrane had come away entire, and the ovum could be seen covered by the decidua reflexa on the surface of one of the layers, which might correspond either to the anterior or the posterior wall. It would be observed that it was situated low down near

the os, showing a tendency to placenta prævia.

Professor Simpson also showed the placenta from a patient dying of phthisis in the end of the sixth month. It had been situate low down, as could be seen from the tear in the membranes. There was slight hæmorrhage in the early part of the labour, and the margin of the placenta was felt close to the inner os; but it was not so decidedly prævious but that the lower part of the uterus became sufficiently dilated for the transmission of the small ovum without much detachment of the placenta. The cord presented between the membranes and the head; but the patient was carefully placed, so as to keep it from compression between the head and the passages, and as the membranes did not rupture till the head was ready to be expelled from the vulva, the child was born alive, only to live a few hours.

Dr. Macdonald exhibited a large "cauliflower excrescence" which he had removed from the cervix with the galvano-caustic wire. No bleeding took place during or after the operation. He was somewhat doubtful if he had been able to remove absolutely the whole of the disease. The patient had felt no pain since the operation.

Dr. Macdonald showed a modification, by Mr. Sanctuary, of Dr. Duncan's "forceps," an ingenious contrivance by which the first blade was prevented from rotating by a movable bar attached to the

handle of the left blade.

Discussion on Dr. Bell's paper on "placenta prævia" was then esumed.

Professor Simpson regretted that he had not enjoyed the privilege of listening to Dr. Bell's communication, and hoped that care would

be taken in after years not to allow the Royal Medical Society's dinner to fall on the night of our Obstetrical Society's ordinary meeting. He felt at a loss how to accept of the President's invitation to resume the discussion on such a great and important subject, which seemed to have been very exhaustively treated in the paper by Dr. Bell and the remarks that had been made on it. It was one of the most important subjects in midwifery, not because of the great frequency in practice of this form of complicated labour—for it probably did not occur much more frequently than once in a thousand cases—but because of the great immediate danger that attended it, both to the mother and child, and the urgent call that was made on the obstetrician for all the resources of his art. He gathered from the report that the subject had been fully gone into in all its bearings, both theoretical and practical, and would only offer an observation or two on some points that had struck him while the minutes were

being read.

He would like, for one thing, to enter his caveat against the universal acceptance of the dogma insisted on by Dr. Macdonald, that the length of the cervix uteri remains unchanged throughout pregnancy, and that no expansion of its canal took place from above except at the close of gestation and as a result of uterine contractions. When Dr. Macdonald made the communication to the Society which he had referred to, he (Dr. Simpson) took occasion at the time to point out that the cervix of a uterus in the sixth month of pregnancy, which he had laid before the Society, was larger than the full-timed cervix in Dr. Macdonald's preparation by three-quarters of an inch to one inch. And he was inclined to believe that the shortening of the cervix by expansion from above during pregnancy, so as to form a cup into which the lower portion of the ovum, invested by the remains of the decidua reflexa, would be received, did sometimes, at least, take place, from what he had observed not very long ago in the case of a patient with a contracted pelvis, in whom, for the second time, he was inducing premature labour. In this case, when the finger had passed through the cervical canal to a distance, as he had judged, of more than an inch, and the point of the finger had passed over the circular ridge that at first he took for the os internum, he found the membranes already detached all round the lower portion of the cavity in which the ovum was lying. It was only the thirtieth week of gestation, and there had been no attempt at uterine action; but the finger had to pass a good inch beyond what felt like the rim of the os internum before it came upon the circle of attachment of the ovum to the uterine walls, to what, in this case, was probably the already widely expanded os internum. Quite recently a paper had appeared in the Archiv für Gynäkologie, in which Küstner demonstrated very satisfactorily on several gravid uteri short of the full term such an expansion of the upper extremity of the cervical canal -expansion forming a cavity of size sufficient to contain the presenting portion of the child's head. Küstner had even justified the

observations of Roederer on this point by examination of old preparations in the Halle Museum. If, then, such an expansion of the supra-vaginal portion of the cervix occasionally took place in ordinary cases, he thought we must still admit the possibility of its occurrence in cases of placenta prævia. So that, though the greater number of the premature hæmorrhages associated with placenta prævia were really accidental, there might still be some that deserved the

familiar Rigby designation of "unavoidable."

He (Dr. S.) had said he could not follow the discussion into all the points that had been raised on this important theme, but he begged to be allowed one or two remarks further on the subject of treatment. Dr. Macdonald seemed to have homologated in all points the theories enunciated by Dr. Matthews Duncan, and had also followed that author in his rejection of artificial separation of the placenta in any case of hæmorrhage associated with placenta prævia. But no amount of hypothetical argumentation could convince him that he had not seen good effects in the way of temporarily arresting the hæmorrhage by detaching the placenta with the finger, in anticipation of the spontaneous detachment that must have occurred whilst the lower segment of the uterus was being dilated into a tube of sufficient width to allow the transit of the fœtus. Now, whilst the observations of Duncan were of the highest value in throwing light on some points in connexion both with the mode of production and the mode of arrest of the hæmorrhage, he believed that Duncan erred in attributing the escape too absolutely to the already bared uterine surface, and so failing to appreciate the hæmorrhage that takes place where blood-channels are partially torn, and that must cease when the same vessels are completely divided. They had only to consider the relation of the maternal vessels to the individual cotyledons of the placenta to understand how hæmorrhage would go on whilst a cotyledon was in process of detachment, and would cease when the detachment was accomplished. As Hyrtl had shown that the fœtal portion of each cotyledon was vascularised by its own special umbilical artery or arteries which had little anastomosis with the vessels of the neighbouring territories, so Professor Turner had demonstrated to the Society the tendency to independence of the maternal bloodsupply in each individual cotyledon. If we thought of the hæmorrhage taking place, for example, as Duncan admitted that it sometimes did, from the tearing open at some point of the sinus of Meckel, then it was clear that, if that sinus really ran in an unbroken circle round the margin of the placenta, the blood would continue to flow from the torn vessel as long as any part of the placenta continued to receive blood from the uterine walls. This important vessel, however, was not a circular sinus in the sense that it formed a continuous channel round the placental border, but was interrupted at short intervals, especially where it met the edges of the thick inter-cotyledonary trabeculæ. When the sinus at the border of a special cotyledon lying close to the os uteri was torn open, blood must necessarily

flow from it so long as the curling artery of the uterus feeding that cotyledon poured its contents into the caverns which were in communication with the lacerated portion of the Meckelain sinus; and the hæmorrhage could only cease when that arterial stream was cut off, perhaps only after all the exit veins of that special cotyledon had their connexion with the veins in the muscular wall of the uterus completely severed. There were, therefore, the most satisfactory theoretical grounds for continuing, in appropriate cases, a line of practice which he had himself seen useful, and which he believed other Fellows of the Society must have found to stand them in good stead in lessening the dangers of this formidable complication. was far from advocating artificial separation of the placenta as the proper treatment in every case of placenta prævia; but he was not prepared, on the other hand, to regard it as universally inappropriate, and he could even quite well conceive a case, though he had not yet met with one, where the conditions were such as to render the complete separation, according to the restrictions advocated by Sir James Simpson, the safest line of treatment for the patient. In the general run of cases, the most efficient aid to labour was afforded by the early employment of the dilating india-rubber bags, which he always used, of the fiddle-shaped pattern, according to Barnes; but each individual case demanded special treatment, and in the same patient it was often necessary to carry out one line of treatment one hour, and to follow it up the next by some other kind of operative procedure.

Dr. Croom, although his experience in placenta prævia was small, would like to make a few observations. He agreed with Dr. Macdonald that bleeding in the earlier months was accidental. referred to the case of a patient who, on three successive occasions, had aborted, with placenta prævia, at the fourth month. The uterus was anteverted, and there was a large abrasion on the anterior lip, which itself was inflamed. No doubt the low position of the placenta had given rise to bleeding, but the endometritis giving rise to brittleness of the vessels had been the proximate cause. He could not agree with Dr. Macdonald in limiting unavoidable bleeding to a period of ten or fourteen days before delivery. He thought any time during the last month it might be unavoidable. He believed turning was the best method of delivery in the great majority of cases of placenta prævia, and thought Dr. Ritchie was rather hard on students who gave turning as the invariable answer. No doubt there were cases in which separation of the placenta, or the use of forceps, might be serviceable, but these were exceptional, and students were right in giving as an answer that form of treatment which was most usually

available.

Dr. MILNE had seen many cases of placenta prævia, and very many with little or no bleeding. He regarded podalic version as the best method of treatment. He would not be inclined to temporise by plugging. He had in some cases separated a portion of the placenta, with the result of stopping the bleeding.

Dr. Bell, in reply, referred to the valuable preparations which had just been shown to the Society by Professor Simpson, as supporting the opinions he had expressed in his paper. The one indicating that the placenta may be attached to the cervix in the commencement of pregnancy, and become the apparent cause of abortion, as in the preparation the ovum was found attached to the lower part of the womb. The other preparation clearly showed that in advanced pregnancy a lobe of the placenta might overlap the cervix without adhering to it. He then expressed his gratification at the reception given to his paper. He was sorry, however, to encroach on the Society's time, but he would like to make a few remarks in regard to what had been said by Dr. Macdonald, who seemed to think that he had "misrepresented" Dr. Duncan. Certainly nothing was further from his intention, as Dr. Duncan was a person he held in high estimation, and if he had done him injustice, he had himself to blame, as he had quoted his own words. He could not see the propriety of considering the hæmorrhage in placenta prævia as accidental; and the assertion that the cervix uteri was not developed until the last fortnight of gestation, was at variance with the views which had been entertained by some of the most eminent accoucheurs both in this country and on the Continent, as well as with his own observation and experience. Accidental hæmorrhage is generally understood to be that which is the consequence of some shock or external injury. It may therefore be foreseen as a natural result of such an accident, and in many instances prevented, whereas the hæmorrhage in placenta prævia is a casualty depending on the locality of the placenta, which cannot be foreseen, and therefore cannot be prevented. In regard to the development of the uterus, it obviously corresponds with that of the child, so that it may accommodate it. Otherwise, how could the fœtus move so freely as it does? In the ninth month the fœtus measures from eighteen to twenty inches in length, yet according to the theory that the cervix does not dilate until within ten days of parturition, we would find the cavity of the uterus only nine inches in length, rendering the movement of the child impossible; yet observation has shown that it moves freely up to the end of pregnancy. Besides, the increased size of the lower segment of the uterus indicates an enlargement of its cavity, otherwise there must be a vast thickening of the walls of the uterus, which is not the case. There is reason to suspect that this new theory is founded more on the appearance of the cervix after parturition, when in general it is immediately contracted, than previous to it; which has led to the error in supposing that it is not gradually dilated after the sixth month.

Dr. Croom read a paper on "The Value of Rapid Dilatation of the Urethra and Neck of the Bladder as an aid in Uterine Diagnosis," which appeared in the May number of the Obstetrical Journal.

Dr. Wilson alluded to a case in which the sound had passed so

far that he thought it must have passed through the uterine walls.

Professor Simpson had listened with much pleasure to Dr. Croom's communication, which threw a new light on an old subject of considerable clinical interest. It was long since he had been convinced that perforation of the walls of the withered uterus could be effected by means of the sound, without the slightest detriment to the patient. The first instance in which he had witnessed it occurred whilst he was still a student, but he remembered it as freshly as if it had taken place that afternoon. One of the gratis patients who came into Sir James Simpson's consulting-room gave a history which led Sir James to guess that she was the subject of superinvolution of the uterus. Dr. Priestley, who proceeded to sound the uterus at Sir James's request, said it could not be that, as the sound had gone in beyond the knob, and the uterus was rather enlarged. On further examination, however, it was found that the uterus was small, with thin friable walls, through which the sound had easily passed, till the point of it could be felt through the not very thick abdominal parietes. Since that time he had met with other similar instances, and he had carefully watched for a case where the sound could be made to travel along a dilated Fallopian tube; but having, in the course of many years, seen only one doubtful instance, he had begun to be sceptical as to the occurrence of such dilatations of the tubes, when Dr. Croom told him, a few years ago, that a patient had at last come into the ward with a permeable oviduct. A repeated examination of this patient, however, satisfied them that the sound had simply passed through the uterine walls. The experiment was made at different times, and it always passed through a point in the fundus, near the left Fallopian tube; but that it did not travel along the tube was proved by the circumstance that the point of the sound which was felt at first to the left of the umbilicus, could be carried across to the right side—a movement which would have been impossible had the instrument been covered by the extended tube. Whether it was necessary to suppose that a permanent fistula existed in the fundus in such cases as had been observed in one of Lawson Tait's patients, he (Dr. S.) could not say. He was inclined to believe that in some of those which he had himself witnessed, the wall was simply unusually thin and lacerable, so that the sound passed through when less force was being used than was occasionally exerted in traversing the os internum of an anteflexed uterus. He had never seen the slightest disturbance follow. Whatever might yet be found as regards the permeability of the Fallopian tube, the ingenious demonstration of the perforation of the uterus by means of the vesical exploration must settle for ever the dispute as to the possibility of the occasional innocuous perforation of the uterine parietes. With regard to the dilatation of the urethra, he (Dr. S.) would remark that he had never had recourse to it except for the diagnosis and treatment of morbid conditions of the bladder itself. For effecting the dilatation, he had

employed at different times different instruments, but latterly he had dilated simply with the finger. Sometimes he first passed a sound into the bladder, and used it for guiding the finger along the canal, and aiding it in tearing the structures; but he found that by first introducing the little finger, he could distend the tube without much difficulty, and the forefinger could be then passed. The greatest resistance was experienced at the very margin of the external orifice of the urethra. In one case he had recently succeeded in passing the little finger into the bladder in a patient in his consultingroom, without bringing her under the influence of an anæsthetic.

Dr. Bruce thought there must be some imperfection in the nature

of the sound if it so readily passed through the uterine fundus.

Dr. James Carmichael alluded to a case many years ago, under Dr. Duncan's care, in the Royal Infirmary, where the sound passed into the abdominal cavity, apparently through the Fallopian tube.

Dr. Macdonald could not agree with Dr. Bruce in his view, that if such cases occurred it rendered the uterine sound specially dangerous or its results untrustworthy. There was no doubt this occurrence was the very rare exception. He had passed the sound into a great many uteri. But the accident had never fallen under his own observations. Still he supposed we must accept the evidence of trustworthy observers who had met with it. He had seen Dr. Duncan's case, and believed it was a case of dilated Fallopian tube. He admitted that the anatomical presumption in these cases was in favour of our being more likely to perforate the uterus with the sound than to pass it into the extremely small internal os of the Fallopian tube. The curious feature in cases of this accident hitherto recorded, was, that little or no evil seemed to result from the accident.

Dr. Macrae regretted there was no record of any post-mortem

examination to throw light on these cases.

Dr. Bell was at a loss to know how the sound could pass through the fundus, unless the uterine tissues were diseased. As to dilating the urethra for diagnostic purposes, he was not sure of the propriety of it. Troublesome incontinence was sure to result.

Dr. Croom thanked the Society for the reception of his paper.

He admitted the great difficulty of diagnosis of these cases.

Meeting, Wednesday, March 27th, 1878. Dr. WILSON, President, in the Chair.

Dr. Macdonald showed a preparation from a case of extrauterine fœtation, which had been sent him by Dr. Baird, of Perth, to

exhibit before the Society.

"The specimen which I would to-night present to the Society was taken from the body of a woman (Jane B.) upon which I was ordered, along with Dr. Crail, then of Bankfoot, to make a post-mortem examination on 24th April, 1877.

The woman was apparently about thirty-four years of age, was unmarried, and of very stout build. There were no external marks notable. On opening the abdomen we found a quantity of clotted blood occupying the pelvis, which, when removed, measured four pints. After removal of the blood and the whole of the bowels, the uterus was exposed and seen to be ruptured on its upper, posterior, and left aspect, to an extent sufficient to admit the tip of the finger. The external os was slightly dilated, but no trace of injury or disease could be made out in the canal. When clearing out the blood we found a fœtus evidently of only a few weeks' development; and now at the ruptured part we found a sac having very thin, almost transparent, walls, from which evidently the fœtus had discharged itself. We could trace no direct communication between the sac and the Fallopian tube. It seemed to be almost quite closed within the wall of the fundus. I learned from Dr. Crail that he had been called about twelve hours previous to death; but the patient being partially unconscious, and the symptoms anomalous, he decided, very properly, to refuse a certificate as to the cause. Six weeks had elapsed since the last menstrual flow. A small subserous fibroid will be seen on the first aspect of the organ, and a polypus of perhaps an inch in length occupied the cavity."

Dr. Macdonald, after reading the above letter of Dr. Baird, which accompanied the preparation, explained that, from a somewhat careful examination of the specimen, he was satisfied that the feetation had been what is called tubo-uterine or interstitial. He further believed that it had arisen most probably owing to the combined influence of the fibroid at the left upper angle of the uterus, and of the polypus, which was situated near the same situation inside the organ. He believed that these structures had got congested between the period of insemination of the ovum and of its entrance into the uterus, and had blocked up the inner os of the Fallopian tube, so as to arrest the ovum near the inner extremity. The history was quite consistent with that of an interstitial pregnancy, which usually burst before the

end of three months.

Professor SIMPSON concurred in regarding the specimen as one of tubo-uterine foctation.

Dr. Keiller then read a paper entitled "Curettes and Curetting," and thereafter exhibited in illustration a variety of instruments which he had found useful in cases of a similar nature to some of those described by Dr. Mundé. One of the instruments bearing some resemblance to the curette of Thomas, and made of dull thick copper wire, he had found extremely useful in such cases, partly as a sound for diagnostic purposes, and also as an agent of real therapeutic value. An additional interest was attached to this instrument as being the original one formerly belonging to the late Professor Hamilton, with which he was in the habit of inducing premature labour.

The President thanked Dr. Keiller for his paper, and the valuable observations therein contained on the use and abuse of curettes.

Dr. Macdonald stated that he had listened with much pleasure to Dr. Keiller's paper, and was satisfied that in its general drift it contained very much that was wise and sound. Indeed, with the exception of the condition of fungoid endometritis so beautifully described by Olshausen, he was not sure but that there ought to be no occasion on which curettes were absolutely needed, if the obstetrician or other attendant in charge of obstetrical cases on all occasions did what was required. Indeed, if all women were certain of having a thoroughly accomplished accoucheur at their labours and abortions, he felt sure that it would be rare indeed for any curette to be needed. But it was the fact that, partly from want of skill or courage on the part of the attendant, partly because a considerable number of women had no assistance when they aborted, every now and then patients were brought to hospital or came to seek the aid of the gynæcologist, because they were brought to the very gates of death by hæmorrhage, referable to the retention of portions of the placenta or membrane of an abortion. Now, these cases urgently demanded treatment, and it was usual to dilate the cervix uteri by sponge or tangle tents, and scratch or peel off these tissues in some But we all knew that that was a proceeding not entirely free from danger, and it was yet to be decided whether a simple dull wire curette, such as Dr. Mundé suggested, or dilatation of the cervix, was the less riskful. From his own recent experience, he was inclined to think that it might possibly turn out to be true that all that was needed could be effected by means of a copper curette in a uterus with its cervical canal moderately roomy without any artificial dilatation, and with even less risk than would accompany the use of a tent. He thought such proceedings ought to be practised with great care, but that it was a feasible operation in hæmorrhagic cases of the nature referred to in Dr. Munde's paper, and perhaps in some other conditions. He considered, however, the Society was indebted to Dr. Keiller for giving them the benefit of his matured wisdom and lengthened experience in a question of this kind.

Professor Simpson thought no one better qualified than Dr. Keiller, from his large and varied experience in such cases, to give us words of caution in regard to the use of such instruments as had been brought under the notice of the Society. But, as Dr. Keiller had himself demonstrated to-night, there were many cases where we could only hope to benefit our patients by getting access to the interior of the uterus, and the question was, which method of intrauterine interference was attended with least risk to the patient. He was of opinion that there was a class of cases in which the curette was undoubtedly useful. At present, he had under treatment two cases of intra-uterine carcinoma in which it had been of service. What he had chiefly learned from the recent paper of Dr. Mundé was that the curette was often useful diagnostically as well as curatively; but he doubted whether Thomas's was of more service in the latter respect than the ordinary Recamier curette of small size. working with both the Recamier and Thomas's curette he had felt

the want of an elevation on the stem at two and a half inches from the extremity, like that with which the finger is familiar on the ordinary uterine sound. He had lately had a curette made with such a projection, and found that he could explore with greater precision

the interior of an expanded uterus.

Dr. Keiller, in reply, said he agreed substantially with the remarks of Dr. Macdonald and Dr. Simpson. Curettes were undoubtedly useful in hæmorrhage cases, first as diagnostic, then as curative agents. He wished it to be understood that he did not undervalue the use of curettes; but he was anxious to caution especially younger practitioners in their too indiscriminate use. He thanked the Fellows for the cordiality with which they had received his paper.

Note of a Case of Retroversion of the Gravid Uterus. By J. B. Buist, M.D., M.R.C.P. Edin.

On the 20th of February last I was consulted by J. M., a married woman, thirty-eight years of age. She had had seven living children (being delivered of twin girls on one occasion) and three miscarriages, and she calculated that she was about the middle of the fifth month of her tenth pregnancy. The catamenia last appeared in the beginning of October last year, and she first felt the movement of the child a week before I saw her. She complained of having had some difficulty in passing water ever since the disappearance of the menses, and that the difficulty had increased somewhat during the preceding ten days. She had no pain, but felt a burning sensation during the act of micturition. Her bowels were habitually confined, so that she required to take aperient medicine regularly. Except an occasional feeling of lassitude, her health was otherwise good. She had been troubled with difficulty in passing her water during two former pregnancies, but a mixture prescribed for her by her medical attendant gave relief on both of these occasions, and she now wished me to prescribe something similar for her. I ordered an alkaline mixture, and told her that if she was not relieved by it, that it would be necessary for me to make a local examination to ascertain the cause of the difficulty. On 24th February she had felt considerably better since she commenced taking the medicine.

On the 28th of February I received an urgent message to go to see her, as she had been taken very ill during the night. On my arrival she informed me that she had been washing and hanging out clothes on the previous day, but that she did not feel anything wrong till about three o'clock that morning, when she was suddenly seized with violent pain in the lower part of the bowels. She felt so uneasy when in bed that she had got up and dressed herself. She could neither sit nor lie down without great discomfort, and felt easier when walking about. The difficulty in passing water had increased very

considerably, but it was not entirely stopped. She could only pass a little at once, and the desire to micturate was more frequent.

As she was out of bed I did not make a local examination, but prescribed a grain of opium and two grains of camphor in a pill to be taken every three hours till the pain was relieved. She was also to have hot applications to the bowels. On 1st March she was no better. She was in bed, and had passed a very restless night. There was still great pain in the lower part of the abdomen, accompanied by a constant desire to pass water, but she was now unable to pass any.

On examining the abdomen, it was not uniformly distended. There was a large rounded swelling to be seen immediately above the pubes, occupying the hypogastric region, and extending upwards nearly to the umbilicus. It was well defined, fluctuating, and very tender on pressure. It was also dull on percussion. There was no pain on pressure in either of the inguinal regions beyond the boundary of the tumour. From the history of the case, the physical signs, and situation of the swelling, there was no doubt that it was the distended urinary bladder. Before passing a catheter to empty the bladder, I made a vaginal examination. On passing the finger into the vagina, it was stopped about an inch from the posterior fourchette by a large rounded tumour which filled up the hollow of the sacrum, and caused the posterior wall of the vagina to bulge forward till it was close behind the pubes. The cavity of the pelvis was completely filled by the tumour, which appeared to be as large as the head of a child at full time. On searching for the os uteri, it was found high up behind the pubes directed upwards and forwards. In front and above it could be felt the distended bladder. The forefinger could be passed into the os externum. Both lips were tense. The cervix and posterior vaginal wall were stretched tightly over the tumour. The tumour itself was firm, elastic, and tender on pressure. On making a sharp, sudden impulse against it, a body, apparently floating in fluid, could be distinctly felt to move away from the fingers. From the foregoing particulars I concluded that the retention of urine was caused by the complete retroversion of the gravid

Having fully satisfied myself of the nature of the case, I first passed a catheter into the bladder, and drew off about three pints of urine. This at once relieved the pain. I then tried to remedy the uterine displacement. The patient being on her left side, I introduced two of the fingers of my right hand into the vagina, and stretched the perineum backwards towards the coccyx till I got well behind the tumour. I then directed the palmar aspect of the fingers forwards, and pressed steadily and firmly upon the tumour upwards and forwards in the axis of the inlet of the pelvis. I exerted the pressure successively upon what appeared to be its lowest points. This proceeding caused considerable pain, and although I was sensible that I had pushed the tumour up somewhat, the patient flinched so much,

and complained so loudly, that I desisted, and determined to com-

plete the reduction next day under chloroform.

and March.—The patient has been very well all night. She has no pain. The frequent desire to micturate is gone, and she is able to pass her water without difficulty. The bowels have been relieved by a dose of castor-oil. On making another vaginal examination, it was found that the fingers passed freely into the vagina, and that the pelvic tumour had entirely disappeared. The os uteri was felt in its normal situation directed downwards and backwards. The vaginal portion of the cervix was about an inch long. It was soft and flaccid. On examining the abdomen the fundus uteri could be distinctly felt above the pubes. It was very tender on pressure. It was evident that nature had completed the reduction of the displaced organ. A Hodge pessary was introduced into the vagina to retain the uterus in situ.

3rd March.—Patient had a rigor last night, which was followed by some pain in the inguinal regions. The pain was relieved by poultices. She slept well. She has very little difficulty in passing water. She has very little appetite, and is pained after taking food. Pulse 84. She is unable to sit up out of bed. If she tries to do so she soon becomes giddy and faint, and is obliged to lie down. There is considerable tenderness over the lower part of the abdomen. She feels no inconvenience from the pessary.

23rd March.—Since last report the patient has suffered from repeated attacks of pain, which have been relieved by opiates and turpentine stupes. She is still confined to bed, as she is threatened

with rigors and faintness whenever she attempts to sit up.

I wish to direct the attention of the Society to several points in this case which appear to me to be of interest:—1. The displacement occurred in a person peculiarly predisposed to it. She had had a large family. All the labours appear to have been normal, except the first, when instruments were required. She suffered from difficulty in micturition during her fifth pregnancy, while carrying twins, and also during her eighth pregnancy, when she was delivered of a boy. On both of these occasions the difficulty was experienced towards the end of gestation. On this occasion it showed itself almost immediately after conception, so that it is probable that there was a previous partial retroversion. 2. The retroversion occurred at a comparatively late period of gestation-viz., in the middle of the. fifth month—at a time, therefore, when the growing uterus had completed its ascent from the pelvic cavity into the abdomen. Doubtless the relaxed uterine ligaments at this period were unable to counteract the primary partial retroversion, and the unusual exertion was at a later period the direct exciting cause of the complete displacement backwards into the pelvic cavity. It is possible that the uterus may have been completely retroverted at the time when impregnation took place, and that the gradual development of the gravid uterus in the pelvic cavity caused the dysuria complained of

from the very commencement of gestation. This, however, does not appear to me to be a tenable hypothesis, as there can be little doubt that urgent symptoms would have declared themselves at a much earlier period. It is more probable that the uterus was not completely, but only partially retroverted at first when impregnation took place, and that this partial retroversion gradually increased in degree as development proceeded. I do not think that the retroversion was complete when I saw the patient on the first two occasions, but that it took place on the morning of the 28th of February after the unusual exertion on the previous day. 3. The case illustrates very forcibly the impossibility of making a correct diagnosis of the exact cause of dysuria in pregnant women without the assistance afforded by a vaginal examination. We can only guess that there is a mechanical obstruction to the flow of urine, without being able to determine what is the cause of it. Even passing the catheter, without an examination per vaginam, only relieves an urgent symptom, without assisting to recognise the disease. I wish also to direct particular attention to the assistance which ballottement may give in distinguishing between a gravid uterus and other pelvic tumours. It would seem that ballottement can be made out much earlier in a completely retroverted gravid uterus than is the case when there is no such complication of normal pregnancy. That the accident was almost certainly recent is proved by the ease with which the reduction of the displacement was effected by nature with comparatively little assistance. It is a difficult point to determine how much force can be justifiably used in attempting to reduce these displacements, and I can only say with reference to this, that it appears to me that every case must be treated on its own merits. In this case there could not have been any adhesions which lessened the difficulty of reduction materially. It is interesting to note the prolonged convalescence of the patient. It is now nearly four weeks since reduction was effected. During this period the patient has been obliged to keep her bed, and has suffered from a low form of pelvic peritonitis. This corroborates a fact which has been recognised—that retroversion of the gravid uterus is a dangerous accident, and may be followed by long illness or even by a fatal result. In this case no tendency to miscarriage has been

24th April.—Patient has improved very gradually, and is now able to be up daily and to attend to most of her household duties.

The President having thanked Dr. Buist for his paper,

Dr. Croom said he thought the Society was indebted to the author for the careful manner in which the case had been recorded. There were many points of great interest in the case—1st, The date at which it occurred, viz., between the fourth and fifth months; 2nd, The ease with which, even at this late period, it was replaced; and, 3rd, The detection of ballottement as a valuable aid in diagnosis. The whole history of it, he thought, corroborated the generally received opinion that, in such cases, the retroversion generally occurred

gradually, the displacements being, in the great majority of cases,

present before conception.

Professor Simpson commended the paper. He thought there must have been retroversion from the very first to some extent, at last becoming complete, the uterus being ultimately driven down and impacted. He had treated a case lately, in hospital, in which emptying the bladder had been sufficient to allow of easy rectification. In another case which had come under the observation of the clinical class he remarked that the pelvis was contracted, and on inquiring into the history of the patient he found that she had always had difficult labours, some of them having been terminated instrumentally, and only three out of her seven children having been born alive. The conditions of the soft parts resulting from the bad labours had perhaps been mainly influential in giving tendency to retroflexion, but he could not doubt that the unusual projection of the sacral promontory had greatly favoured the displacement.

Dr. Underhill considered the case interesting in the mode o attack. It was evident the displacement existed before pregnancy. He would have liked to know the condition of the bladder when the patient was first seen. About a year ago he had a case of retroflexion of the gravid womb, with difficulty in defecation. Pregnancy went on naturally. The unusually prolonged convalescence in Dr. Buist's case he regarded as peculiar. He thought perhaps the irritation produced by the prolonged use of the pessary might have acted injuriously. The ballottement so readily detected in this case was

interesting from a diagnostic point of view.

Dr. Macdonald agreed with previous speakers as to the presumption that the retroversion had existed from the commencement of the pregnancy, and had gradually become more troublesome in consequence of the progressive enlargement of the uterus, until it reached the crisis which had necessitated some treatment. He referred to the occurrence of retroversion in contracted pelvis mentioned by Professor Simpson, and thought such cases capable of explanation in this way, that the necessary operative interference required in delivery with moderately contracted pelvis was apt to overstretch the uterine ligaments, particularly the retro-uterine ligaments, and thereby tend to the production of retroversion. Thus, although patients with large and roomy pelvis were liable to this accident, the same tendency was apt to be developed when the pelvic conditions were exactly the reverse. In illustration of these statements he mentioned the case of a patient of his own with three and a quarter conjugate, in which it had occurred. The patient had required to be delivered by turning on these occasions. The displacement took place in early pregnancy, requiring the use of a Hodge's pessary. He could not blame the pessary in Dr. Buist's case for the slowness of the convalescence. He had seen a post-mortem examination of a patient who had died from peritonitis and uræmic poisoning, resulting from a severe retroversion of the gravid uterus; the ureters and kidney were dilated, and the bladder dilated, thickened, and inflamed. Were such conditions present in the present case in only a minor degree, it would more than account for the tardy convalescence.

Dr. RITCHIE thought the patient to some extent to blame for not attending to the bladder, the state of which was, in these cases, such

a fruitful cause of uterine dislocation.

Dr. Keiller thought the only other point worthy of note was the force required to replace the uterus. He referred to a case he had seen along with Dr. Bruce, which at the time was brought into hospital. The uterus was so displaced that the fundus pressed down and distended the perineum. Great force was used in reduction, which was effected by pushing up the fundus, at the same time pulling down the cervix. In this case the patient went on to full term, and did well.

Dr. Buist thanked the Fellows for the reception they had given to his paper. He thought complete retroversion had occurred at the time he had already stated. He could not agree with Dr. Underhill in thinking the pessary did harm.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, April 13th, 1878. Dr. DARBY, President, in the Chair.

Specimen of Tumour of the Labium.

Dr. Macan.—I am indebted to my colleague, Dr. Croly, for being able to show this specimen to the Society. It is a tumour of the labium, and I have been unable to find any case reported which seemed exactly to resemble it. The following are the notes of the case: - Bridget Ledrick, aged thirty years, and married, was, on the 22nd of March, admitted, under Dr. Croly, into the City of Dublin Hospital. She stated that about five years ago she first noticed the tumour, since which date it had been gradually growing larger. When admitted she had a tumour containing fluid hanging from the upper part of her left labium. It was about four inches long, with a pedicle of nearly the same length. It was removed on Tuesday, the 26th. Two ligatures were passed round the pedicle, which was divided between them. There was no hæmorrhage. Carbolic dressing was applied, and she left the hospital on the 8th of April, perfectly cured. The contents of the tumour seemed to be half fluid and half solid, and as it grew from the anterior part of the labium it could not be due to hypertrophy and degeneration of one of Bartholini's glands.

The President.—This is a very interesting kind of tumour, for, as Dr. Macan tells you, it is not of a very common type—at least as far as my experience goes. I saw two cases of it—one in Steevens's Hospital under the care of the late Dr. Hardy, with a pedicle from ten to twelve inches long, and the tumour (about as large as a hen's egg) being down nearly as far as the knee. The tumour was partly fluid, and when felt it gave the sensation to my hand as a bag of worms. It was removed by Dr. Hardy with an écraseur. About six years ago, Dr. Symes, of Kingstown, asked me to assist him in removing a tumour from an unmarried lady. It was of the same character, and was removed with an écraseur. Had I been called upon in Dr. Macan's case I would probably have used the écraseur for its removal. I wish to ask him was any artery felt pulsating in the pedicle?

Dr. MACAN.—No.

On the Hypodermic Injection of Chloral in Puerperal Eclampsia. By Richard D. Purefoy, M.B., L.R.C.S.I.

I wish to lay before the Society brief details of two cases of puerperal convulsions, in the treatment of which chloral hydrate was administered subcutaneously, with results sufficiently good to warrant a further trial of this mode of giving it. The value of this medicine in such cases is now universally admitted; but, so far as I know, in this country it has hitherto been given only by the mouth or rectum. When used subcutaneously, a comparatively small dose is followed in a short time by the usual constitutional effects, and, provided the solution be not too strong, and is injected deeply into muscular tissue, we have little reason to dread the formation of abscesses. My first patient, aged eighteen, had been subject to fits from the early age of five, occurring at first only after long intervals of a year or more, but as she grew older they became greatly increased in frequency and severity. In January, 1877, she had seven consecutively, and in April eleven in one day. About this time, though still unmarried, she became pregnant, and fretted very much in consequence, and for some days before her confinement, which took place prematurely about the sixth month, remained, I was informed, without any solid food whatever. On Friday, March 25th, she was seized with convulsions, which recurred, to use her mother's expression, every five minutes, but I was not brought to see her till about twelve P.M., at which time a small putrid fœtus had been expelled without any loss of blood. The pulse and respiration were both very rapid, and only a few minutes interval between each fit. I sent for some chloral, and in the meantime, as the urgency of the case was so extreme, began the treatment by chloroform inhalation, which had a marked effect in warding off the attacks. Shortly afterwards five grains of chloral, dissolved in about thirty minims of water, was injected in the thigh, and a similar quantity in about half an hour afterwards. At this time the pulse was 144, and the temperature 100°. The subsequent seizures were of brief duration, lasting only from thirty to sixty seconds, instead of as before, three or four minutes, while the great diminution in their frequency gave further proof of the improvement in the patient's condition. Three more five-grain doses of chloral were given at intervals of about an hour—the whole amount being twenty-five grains. The last attack was noticed at one P.M. on Saturday, and was indicated only by enormously rapid and laboured respiration, attended by slight uneasy movements in the hands and feet. At two o'clock morphia one-third of a grain was given, and subsequently some beeftea and brandy at suitable intervals. All the rest of the day she lay perfectly unconscious, the respiration varying from 35 to 50 in the minute, and the pulse from 130 to 140, being at one time so hard to feel that recourse was had to the injection of ether, as recommended by my friend, Dr. Macan, and with the happiest result. II P.M.— Urine examined and found healthy; respiration very stertorous; pulse very weak.

March 27th.—10 A.M.—Respiration 42, free from stertor; pulse 136. About noon it was noticed that deglutition was accomplished with great difficulty and pain, and soon afterwards she obstinately refused to swallow anything, and all nourishment had to be given by

the rectum.

March 28th.—Pulse very weak and compressible; respiration carried on through the nose; uneasy motions of the head and extremities, noticed yesterday, have ceased; has begun to swallow nourishment again, but with great difficulty; temperature 1043°. As an enema failed to move the bowels, five grains of calomel were administered, and a turpentine stupe used to relieve some bronchial irritation which existed. She persistently refused to swallow any medicine, so I injected some quinine subcutaneously.

March 29th.—About noon began to shake her head from side to side, at the same time making most horrible contortions. Respiration at this time 48, and pulse 140. As the bowels had not been moved, a turpentine enema was given, but without any effect until aided by a draught of that invaluable beverage known in the Rotunda as B B, otherwise Mist. Sennæ co. A most careful examination of the chest showed that there was no disease present, except slight bronchitis, quite insufficient to account for the very rapid respiration.

Her general condition improved somewhat after the action of the medicine, and the next day, for the first time since her illness began, she spoke a little. Nourishment and tonics, as well as whisky, had been freely given as soon as the patient could be induced to swallow, but, notwithstanding, her convalescence was very slow indeed, principally owing to the deplorable condition of her mind and body before her confinement.

The second case of convulsions in which I adopted this treatment was admitted to the Rotunda Hospital some hours after the birth of a stillborn child. She was a primipara and unmarried; no seizures occurred till after delivery, and they were then neither severe nor frequent; four five-grain doses of chloral were administered with most satisfactory results. This patient's urine was very dark in colour, and became nearly solid when tested for albumen. I should add, that in this case also a little chloroform was administered by innalation until the effects of the chloral injection were manifest.

Dr. Purefoy added that in the cases that he mentioned the treatment was begun by giving chloroform. In the first case the convulsions were very severe, and in using the chloral he was experimenting.

The effect of the medicine was very marked in both cases.

Dr. MACAN thought the Society was greatly indebted to Dr. Purefoy for bringing forward these two cases of puerperal convulsions, treated by the subcutaneous injection of hydrate of chloral, which was an entirely novel method of treatment in this country. He had found it mentioned by Dr. W. L. Richardson in a paper on the use of hydrate of chloral in labour, read at the first annual meeting of the American Gynæcological Society. He says, however, that the treatment had been abandoned on account of its causing troublesome and painful abscesses. Dr. Purefov, by using a weaker solution and injecting it deeply into the tissues, seems entirely to have overcome this objection. Professor Liebreich recommends seven grains as the proper amount for subcutaneous injection, and of course all medicine administered in this way acted more quickly and more powerfully than when given either by the mouth or rectum. He did not think, however, that Dr. Purefoy's two cases were quite satisfactory, for chloroform was given in both before the injection of the hydrate of chloral. Moreover, the first patient had been subject for years to epilepsy, and before she became pregnant had on one day as many as nine fits. Another circumstance which tended to confirm this idea was the absence of albumen from the urine. The case was also unusual from the period of pregnancy when the convulsions came on, for he gathered from what Dr. Purefoy had said that she had only been a comparatively short time pregnant. The second case was also not conclusive, for the convulsions did not come on until after delivery, and such cases were, as a rule, by no means so serious as those in which the convulsions appeared during labour, and were the most amenable to other methods of treatment. However, when in future he (Dr. Macan) met with a case of puerperal convulsions he would not hesitate to treat it by means of the subcutaneous injection of hydrate of chloral.

Dr. More Madden.—The paper which has been read is one of great importance, and I think Dr. Macan's observations are of great interest also, although I do not myself agree with their views. Several years ago I read a paper stating that I had tried, as others have also done, the administration of hydrate of chloral in puerperal convulsions. I mention this because Dr. Macan has stated that if a case of puerperal convulsions should occur in his practice, he would think it right to give a fair trial to hydrate of chloral. I believe that

if the case were not one of mere hysterical convulsions, which would get well whether hydrate of chloral or any other medicine were given or not, but a case of true puerperal convulsions, and that if he were to rely upon the hydrate of chloral while the patient was dying of the disease, that event would not probably be averted by this treatment. If the experience of those who have tried any remedy be altogether ignored, and if gentlemen start up at the end of some years to try the same experiment again, it will probably prove a waste of time and labour. We have a certain way of treating puerperal convulsions, and a tolerably certain way of curing them; and if we disregard this, and proceed to try experiments in one of the most serious complications of labour—one of the most serious disasters, in fact, that can occur to a pregnant woman—and spend time in trying hydrate of chloral and other remedies of that kind, we may possibly incur the reproach of not having made ourselves fully acquainted with the

literature of the subject.

Dr. M'CLINTOCK.—I must say in all candour that I do not see the cases Dr. Purefoy has brought before us, when impartially looked at, justify any inference as to the value of chloral in the treatment of eclampsia. In the first case the patient appears to have remained for some days in a most critical state, and it is questionable whether the case was really one of puerperal convulsions at all or not. The convulsions occurred at a period of pregnancy when true eclampsia seldom appears. The patient, moreover, was in a most critical state for several days, and narrowly escaped with her life; and I do not see how we can attribute her recovery to the efficacy of the chloral. In the other case I do not think that the chloral had any decided influence one way or another. The convulsions occurred after her confinement, and she underwent other modes of treatment. I feel obliged, however, to Dr. Purefoy for bringing these cases forward. They show, at all events, that chloral may be administered hypodermically without any unpleasant results, constitutional or local; and that is a matter of some value. If I had a bad case of convulsions which resisted other treatment, and that the fits were very severe, I would certainly try the chloral subcutaneously. I must confess, with Dr. More Madden, that there are other modes of treatment which I would certainly put in practice before resorting to chloral.

Dr. Denham.—We should never lose sight of the varied causes that may induce puerperal convulsions. In the case, for example, of a young plethoric woman with rapid pulse, flushed face, constipated bowels, and a variety of other symptoms, it is quite clear that the treatment should not begin with chloral. Other principles which have been laid down for the treatment of puerperal convulsions should first be brought into operation; and I do not hesitate to say that if a case such as I have just described were to come under my care, I would take a good dash of blood from the patient's arm in the first instance, and also take care that her bowels were fully and

freely purged; and after those two points should have been gained, I believe that the way would be paved either for an anæsthetic such as has been spoken of, or for the administration of chloroform. I believe that in the case of a woman suffering from puerperal convulsions, injected chloral would act more rapidly than chloral given by the mouth. I remember carrying out a series of experiments in the Rotunda Hospital with chloroform at a time when chloral was not known, and the effect of it was to diminish the number and severity of the fits; at the same time I have seen the convulsions come on while the woman was actually under the influence of chloroform. I do not believe that two or three, or even ten cases such as have been brought before us, would warrant a change from the old standard modes of treatment. I have not the slightest doubt that Dr. Purefoy's treatment was judicious for the cases that he had to deal with, but I do not think either of them were what we could fairly call cases of eclampsia. Dr. Macan thinks that convulsions coming on after delivery are less dangerous than those that occur during the stages of pregnancy. I regret to say that my experience is rather different from that. I look with much more apprehension upon convulsions occurring after than before delivery. Of course the case may be to a certain extent modified when the woman has been delivered and has lost a quantity of blood; but my experience has been that convulsions after delivery are on the whole more dangerous than when they occur before it.

Surgeon-Major Johnston.—Allow me to mention a case in which convulsions occurred in a somewhat peculiar way a few days before confinement. The woman was in the lying-in ward of my hospital. I was coming out of the ward when her husband met me and asked what was the matter. I told him his wife had had very severe convulsions. He rubbed his hands and said, "Oh, don't do anything to her, and she will have a baby in three days." I accordingly gave the woman no treatment at all, but waited; and exactly at the end of the three days she had her baby. I afterwards learned that the

same thing had occurred several times before.

Dr. Purefoy (in reply).—I think Dr. Macan's observations, especially those as to the doubtful nature of the first case, are entitled to due weight. Still I think I am right in holding that the absence of albumen from the urine does not prove that the case was not one of puerperal eclampsia. I know that chloral has been injected subcutaneously in England long before I did it. The second of the cases I have submitted was not by any means a severe one; at the same time I have seen long-continued and severe convulsions lasting over two days, and not coming on until after delivery. I still think that convulsions occurring after delivery are not at all so serious as convulsions occurring before delivery. In reply to Dr. Macan's question, the first patient had reached about the sixth month of pregnancy. Not much more than a year ago I saw a case of puerperal convulsions in which the patient was quite insensible, and I

did not think she would recover. She was stated to be only in the sixth month of her pregnancy, and from the size of her abdomen I think that was the case. That patient's recovery was due to vene-section. I believe that chloral can be injected without abscesses ensuing from the use of it. I was greatly impressed with the benefit that resulted from the use of the chloral in the first case.

Obstetric Summary.

Gastro-elytrotomy as an Alternative for Embryotomy.

In an article on the operation of laparo-elytrotomy, or as it has hitherto usually been called, gastro-elytrotomy, Dr. Gaillard Thomas gives a history of the cases in which it has been undertaken, and adds another in which he has himself recently performed it as an alternative for embryotomy. He had first performed it on a patient moribund from pneumonia, with the result of delivering alive a premature child, which, however, died after an hour or two. Since then Dr. Skene operated in one case in the interest of the mother, after craniotomy had been performed in vain, the conjugate diameter being not more than two and a half inches. The operation was performed easily; but the patient died seven hours after, having been much exhausted at the time of the operation, with a pulse over 130. Dr. Skene has also operated in two cases of contracted pelvis, with a successful result to mother and child.

In the case now recorded the patient was Irish, twenty years old, married, and a primipara. She was very small and undeveloped; one leg was contracted and bent, and the thigh firmly flexed upon the abdomen. The pelvis at the superior strait had been estimated by several gentlemen who had seen the patient at two and three-quarter inches in the conjugate diameter; but the author questions whether it measured more than two and a half. At the outlet the conjugate diameter was long, while the transverse was estimated at two and a quarter inches.

The question as to operative procedure up to the time of Dr. Thomas's arrival had been between evisceration, the child presenting by the breech, and Cæsarian section, the preponderance of opinion being decidedly in favour of the former. He proposed, as a compromise, laparo-elytrotomy, and, this being decided upon, he was requested to perform the operation, labour having commenced some

sixteen hours before he was called in.

The skin and adipose tissue were divided from the superior spinous process of the ilium, along the upper edge of Poupart's ligament, to the spine of the pubis on the right side of the body. Dr. Thomas then cut through the muscles, and, coming down to the peritoneum, lifted this, and touched the vagina. An assistant having passed his finger into this canal and pushed it upward, he cut down upon it near the uterine junction. Then inserting his two index-fingers, he

No. LXVIII.—Vol. VI.

tore the vaginal wall downwards. Immediately the uterus, contracting strongly, forced the breech of the child into the iliac fossa, and hooking the index-fingers into the groins, he rapidly delivered. The child was asphyxiated, but by sharp slapping it soon recovered and cried lustily. From this time onward it did perfectly well.

The wound having been thoroughly cleansed of blood-clots, by forcing carbolised water through it by means of a Davidson's syringe, was closed by silver sutures throughout. No vessels were tied, and thus no foreign substance was left within it. The duration of the operation, from the time of the first incision to its completion, was

thirty-five minutes.

On the second day it was found that the urine did not pass through the catheter kept in the bladder, but escaped per vaginam. A fistula evidently existed. On the sixth day, however, the urine again flowed freely through the catheter. On the ninth day the temperature suddenly rose to 104°.6. As the patient had lived in a very malarious district, the rise of temperature was regarded as due to miasmatic poisoning. Quinine was given in scruple doses, and the fever was rapidly subdued. The patient went on steadily to complete recovery, the wound healing by second intention, the solution of continuity being filled up by granulations. On the twentieth day after the operation the bladder, which was undoubtedly injured by the operation, recovered its retentive power, the catheter was removed, and the patient thenceforth passed her urine voluntarily. Thirty-two days after the operation the wound, which was originally five inches long, measured in length two and a half inches, and in depth half an inch. Vaginal examination showed on right side an opening with sharp falciform border extending into iliac fossa, one inch in extent.

The author remarks that the great danger to be apprehended in the operation is unquestionably hæmorrhage, from the congeries of large tortuous arteries around the vagina which must be severed: though it occurred in none of the five cases reported in this paper. He thinks however that, by means of ligatures, the actual cautery, or such styptics as the persulphate of iron, hæmorrhage could probably be controlled, even if it did occur. He contrasts with the unfavourable results of Cæsarian section and even of craniotomy these five cases, in all of which the children were delivered alive, except one which had previously been perforated, while the mothers recovered in all of the three cases in which they were in a fair condition at the time of the operation.

Dr. Thomas, from the experience he has had in this operation,

advises the following consecutive steps:—

rst.—The operator should be provided with a pocket-case of instruments, ether, Barnes's dilators, and Paquelin's thermo-cautery, or, in place of it, ordinary cautery-irons.

2nd.—The patient having been etherised, she should be placed upon a firm table, and the os fully dilated by Barnes's dilators.

3rd.—The abdominal wound should be made, the peritoneum lifted.

the vagina opened, and the child delivered by version, if the head or

arm present; by extraction, if the breech do so.

4th.—The placenta having been delivered, and the uterus caused to contract firmly, the iliac fossa should be cleansed by a stream of warm water, introduced through the abdominal wound, and escaping through the vagina; and, if hæmorrhage exist, ligatures should be applied, if possible, through the abdominal wound, to the bleeding vessels. Should this prove impossible, the vagina should be distended by a large metallic speculum, and, the tips of the abdominal wound being widely separated, the bleeding points touched by the actual cautery carried down from above. Should this fail, the uterus should be made to contract firmly by ergot, and both vagina and iliac fossa be thoroughly tamponed with cotton soaked in water and squeezed, but without any styptic. Then a broad band of adhesive plaster and a compress should be applied over the lower portion of the abdomen.

5th.—Should no undue hæmorrhage occur, the abdominal wound should be closed by interrupted silver sutures, the vagina should be syringed out every five hours with warm carbolised water, the nozzle of the syringe being carried through the vaginal opening, and the fluid forced out through that in the abdomen. The patient should be kept perfectly quiet, nourished by milk and animal broths, and kept free from pain by opium.—American Journal of Obstetrics, April, 1878.

Gastrotomy for Extra-Uterine Fætation.

In a paper read before the New York Obstetrical Society, Dr. Gaillard Thomas relates a case in which he successfully performed secondary gastrotomy for extra-uterine feetation. The patient was a negress, twenty-three years old, married four years, and had had two children. About seventeen months before she became pregnant for the third time. At the fourth or fifth month, both she and her husband distinctly felt the feetal movements. These movements were continuous and distinct until the ninth month. At this time labour came on, a physician was called, and, after an examination, he told her that she was not pregnant, but was suffering from a tumour. Labour continued for three days and three nights, the pains being very weak, and exactly like labour pains. At the end of this period, the pains ceased and had never recurred: neither had she ever felt any further movement of the child.

When she presented herself, she was much emaciated but in fair general health. A large tumour was found in the abdominal cavity—as large as the fœtus at term, and presenting all the appearances of an ovarian tumour. On deep pressure, however, there could be sometimes felt a sensation as of a solid body moving about in a mass of fluid. Before the operation, to make sure of the diagnosis, some fluid was drawn off and submitted to examination. It looked like ordinary ovarian fluid, with a slight admixture of blood. One pathologist found ovarian corpuscles in it: but on a specimen being sent

to Dr. Drysdale, of Philadelphia, he declared that the fluid was not ovarian, but ordinary ascitic fluid.

The operation was begun by an incision just below the umbilicus, extending downwards towards the pubes. On opening the peritoneal cavity, there was a gush of fluid. The finger fortunately discovered the placenta attached to the anterior wall of the abdomen, in time to avoid cutting it. A large child was then discovered and drawn out by the legs. There was no viscus visible in the peritoneal cavity, everything being covered by the membranes. The cut cord did not bleed. The placenta was left in situ, and the wound closed. The patient did well for two days, when the temperature went up to 103°5, the pulse became very rapid, the abdomen soon began to swell, and her condition became very alarming. On separating the wound, which had united, a large volume of very fœtid gas rushed out; this escaping, the abdomen went down. The patient was then turned on her side, and about eight ounces of extremely fœtid fluid poured out, and carbolised salt water injected into the cavity. In about half an hour the temperature went down to 99° 5 in the vagina. Abdominal injections were continued, and, for about three weeks, the placenta continued to come away in pieces about the size of a walnut, feetid, soft, and pulpy. After this she perfectly recovered.

The author considers that, although in rare cases, a child may be carried for many years in the abdominal cavity without setting up further mischief, yet this is an exception to the general experience, and its mere presence is an almost certain source of danger sooner or later. He thinks that the rule of abstaining from interference in such a case is a rule of the past, which obtained before anything was

known of abdominal surgery.

Intra-Venous Injection of Milk as a Substitute for Transfusion of Blood.

Dr. Gaillard Thomas, whose successful case of intra-venous injection of milk in a patient sinking from exhaustion after double ovariotomy was recorded in the OBSTETRICAL JOURNAL, vol. iv. p. 130, relates two other cases in which he has performed the operation, and reviews the other recorded cases in which it has been practised. Of transfusion of blood, he remarks that it holds the position of an operation, the plausibility and theoretical advantages of which all admit, but the absolute utility and practical results of which amount to very little indeed, since cases demanding it, according to the dicta of its upholders, are dying among us constantly without receiving the benefits which are claimed for it. The reason for this unfortunate fact he attributes to the difficulty and danger arising from the tendency to coagulation which characterises the fluid which is employed, since a pellet of lymph or a limited quantity of atmospheric air entering the circulation, or, as Roussel declares, the mere contamination of blood by contact with air, is enough to invalidate the operation, and turn the scale against success. Milk the author

regards as being not very much more unlike blood than the chyle

which is constantly being poured into the circulation.

Milk was first employed by Dr. E. M. Hodder, of Toronto, Canada, who in 1850 injected it into the veins of three persons moribund from Asiatic cholera, employing as much as fourteen ounces at one sitting, having been encouraged to try the method from the fact that Donné had injected milk into the veins of dogs and rabbits without injury to them. No alarming symptoms occurred, and two recoveries took place in patients who had appeared moribund. Dr. J. W. Howe, of New York, in 1874 injected six ounces of goat's milk into the cephalic vein of a patient suffering from tubercular disease, and dying from starvation in consequence of an inability to retain nutritious material by either stomach or rectum. No serious symptom followed, but little or no improvement of condition, and the patient died four days afterwards. In 1875 came Dr. Thomas's first successful case. On publication of this, Dr. Howe was encouraged to experiment still further. Experimenting upon seven dogs, he withdrew from the veins a number of ounces of blood, and replaced it by intra-venous injection of milk. Every dog died promptly. He likewise tried the lacteal injection upon a man in the third stage of phthisis, in whom death from coma occurred in a few hours after the operation. Dr. Thomas, however, was in nowise discouraged, finding that Dr. Howe had injected milk which had reached New York by rail two or three hours after being drawn from the cow, and which had therefore, of course, undergone decomposition, and developed noxious properties. At his request, Dr. Eugene Dupuy repeated, in his laboratory, the same experiments upon dogs, and established to his full satisfaction the following facts: 1. That the intra-venous injection of decomposed milk into dogs is uniformly fatal; 2. That the same experiments, if practised with perfectly pure and fresh milk, is entirely innocuous.

The next case related is one in which Dr. Thomas had removed by ovariotomy a large adherent tumour from a woman, aged twentyone, and the patient appeared moribund from peritonitis and exhaustion, after formation of a large abscess in the abdominal cavity. Five injections were practised, from six to fifteen ounces of milk
being used at each sitting. After a transient rise of pulse and temperature, accompanied by rigors, temporary improvement followed,
and life appeared to have been prolonged for six days. The patient
eventually died, a communication having been formed between the
colon and the wound. The last case was also one of ovariotomy, in
which the patient, sixty-five hours after operation, was sinking from
hæmorrhage from an oozing surface where adhesions had been separated. Five ounces of fresh milk were injected. No perceptible
effect was produced, and, hæmorrhage continuing, the patient sank

and died fourteen hours after.

In the discussion which followed, Dr. A. Jacobi insisted on the necessity of seeing that the milk was slightly alkaline before its injection, since there were a certain number of cows in which the milk

had an acid reaction, even when in the udder.—New York Medical Fournal, May, 1878.

Gynacic Summary.

Battey's Operation.

In the American Fournal of Obstetrics for July, 1878, Dr. Engelmann relates three successive cases of Battey's operation for the removal of the ovaries, all of which proved fatal. In all three the operation was performed on account of severe pains and hysterical and nervous symptoms dependent upon uterine or ovarian irritation, for which all other means of treatment had failed.

The first case was that of a woman, forty-two years old, the mother of four children. For two years she had suffered from severe attacks of asthma, ending with bronchial cough and expectoration, and also from a gastric hystero-neurosis—nausea and fulness of the stomach. These symptoms were found to depend upon an acutely retroflexed and tender uterus. The introduction of an intra-uterine stem brought complete relief, as long as it could be borne, but the irritable condition of the uterus always rendered it necessary to remove it within a day or two, and frequently within a few hours, while vaginal pessaries did little good. As the intensity of symptoms was confined latterly to the period of catamenial congestion, the author decided, with the concurrence of Dr. Marion Sims, to extirpate the ovaries with the view of establishing the menopause.

At the operation Lister's antiseptic method was used to its fullest extent. The ovaries were not adherent, but difficulty was found in dragging them sufficiently into the incision to allow the mesovarium of each to be tied with a silk ligature, which was cut short and dropped. The operation lasted an hour and ten minutes. The patient, who had been much reduced before the operation, could scarcely be induced to take any nourishment afterwards, and died on the sixth day from inanition and exhaustion. The highest temperature was 100°.8, on the fourth day, and at the autopsy but faint traces

of peritoneal irritation were found.

The second case was that of a mulatto woman, aged thirty-three, married eight years before, but sterile. She suffered severe pain, appearing to originate in the left ovarian region with general nervous and hysterical symptoms. The uterus was acutely anteflexed, and a yielding resistance was discovered in the region of the left ovary. Nearly two years after the commencement of treatment, the author decided on extirpation of the ovaries, with the concurrence of Dr. Marion Sims. The operation on this occasion was performed without the carbolic spray. The ovaries were cystic and adherent, and could not be drawn into the incision. They were finally tied in the depth of the pelvic cavity with silk ligatures, which were cut short and dropped. The operation lasted one hour. Symptoms of peritonitis appeared on the morning of the second day, and the patient died on the third.

The third case was that of a woman, aged thirty-one, married for eight years, but sterile. Uterine trouble appeared soon after marriage, and she had lately suffered from intense menstrual suffering, and had had several attacks of pelvic cellulitis. Menstrual hystero-neurosis of the stomach was also very marked. The uterus was anteflexed, the right ovary was felt, of the size of a small egg, but excessively sensitive: it appeared to be not adherent and movable. The left ovary was smaller and less sensitive. The operation was performed under carbolic spray. Both ovaries were difficult to find, and proved to be cystic, situated low down, and completely immovable. They could not be properly removed until the incision was enlarged to two inches above the umbilicus, and the pelvic cavity fully exposed. The ligatures were brought out at the lower angle of the wound. which was left open for drainage. The operation lasted a little over two hours, during which time, notwithstanding the use of ether, it twice became necessary to resort to artificial respiration. The patient did well for twenty-four hours, though hæmorrhage took place from the wound about two hours after the operation. After that she

slowly failed, and died on the third day.

Notwithstanding the unfortunate termination, the author considers that, in these three cases, the operation was not only justifiable, but decidedly indicated and demanded. Reviewing in the St. Louis Medical and Surgical Fournal 43 recorded cases, he finds that the deaths were 14, or 32.5 per cent.; 20.9 per cent. were cured, 13'9 per cent. greatly improved, 11'6 per cent. somewhat improved, 13'9 per cent. not improved, and 6'9 per cent. made worse. Most of the cases in which no improvement occurred were those in which only one ovary was removed, or in which the ovaries, being adherent, were partially left, especially when the operation was performed by the vagina. The greatest success in cure, and least mortality, were in the cases in which both normal ovaries were removed to bring about the menopause, and check hæmorrhage from uterine tumours. The extirpation of both ovaries has proved the more dangerous operation, the mortality being 41'9 per cent., as against 8:3 per cent. after removal of one ovary, but far more successful in respect of cure, all who survived the complete removal having been improved, while only 33'3 per cent. were improved after removal of one ovary. The same comparison may be made between the operations by the abdominal, and those by the vaginal section; II of the 26 patients operated on by abdominal section died. while only 3 of the 17 vaginal sections proved fatal. On the other hand, all the patients who survived the abdominal operation were improved, while the vaginal method gives only 29.4 per cent. improved, and 52'9 per cent. not improved. The author considers that the uncertainty of being able to complete the operation is sufficient to condemn the vaginal method.

In an exhaustive article on the spaying of women in the Sammlung Klinische Vorträge, No. 136–138, Professor Hegar relates several cases operated on by himself, in addition to those included in Dr.

Engelmann's first review, bringing the number in all up to nine. In five of these the operation was performed on account of uterine fibroids. One patient died from septic peritonitis, which the author believes to have been due to septic infection, carried by him from a case of sloughing fibroid tumour treated a few days previously, in spite of the strictest antiseptic precautions. In three of the remaining four great improvement followed; complete cessation of menstruation was obtained, with marked diminution in the size of the tumours. In the fifth, the tumour had diminished five months after the operation, and menstruation had not recurred, but a month later an increase in it was again observed, with a recurrence of hæmorrhage. In four cases the operation was performed for ovarian neuralgia with dysmenorrhœa, or peri-oophoritis, and in all these the ovaries were found enlarged and degenerated. In one of these, the earliest of all the author's cases recorded, the operation having been performed in July, 1872, death followed on the fourth day from peritonitis, and the author is convinced that this was due to the conveyance of some external septic infection. In a second all the symptoms were cured, and the menopause had been procured, the date of report being six months after the operation. In the remaining two considerable improvement had occurred, but only a few weeks had elapsed since the operation at the time of the report.

Professor Hegar removes both ovaries by abdominal section. He does not employ the carbolic spray, but uses a moderately dilute solution of chlorine as an antiseptic. He regards it as the most essential point that the operator should have kept himself free from any contamination of post-mortem poison, or still more, that of erysipelas, scarlatina, or diphtheria. He considers it a very dangerous delusion to imagine that Lister's antiseptic method will allow such precautions to be dispensed with, believing that some poisons may be so virulent

and tenacious as to resist its influence.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"Pathologische Anatomie der Weiblichen Unfruchtbarkeit, deren Mechanik und Behandlung." Von Dr. Hermann Beigel. Braunschweig, 1875. Pp. 419.

"Strictures of the Cervical Canal." By A. Fredrik Eklund, M.D. Stockholm. Translated from the Swedish by A. Sibley Campbell,

A.B., M.D. Augusta, Georgia.

Communications received from Dr. Dolan, Dr. G. Hamilton, Professor Trenholme, Mr. Egan, Dr. J. Williams, Mr. Lawson Tait, Dr. Sansom, and Dr. Godson.

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Original Communications.

NOTES ON THE COMMON FORMS OF DIARRHŒA IN CHILDREN.*

By A. Ernest Sansom, M.D. Lond., F.R.C.P. Senior Physician to the North-Eastern Hospital for Children, and Assistant Physician to the London Hospital.

FOR nine years past I have been engaged in observing the ailments of children at the North-Eastern Hospital for Children, both out-patients and in-patients. Our field is a wide one, and the circumstances of our patients are very narrow. During 1877 the average attendance of out-patients amounted to 142 per day, the number of individual patients being 259 weekly.

Taking 500 cases haphazard, I find the following to express the nature of the cases presenting themselves:—

	Intestinal worms (diagnosis unconfirmed) Diarrhoea	145
I.	The stinal worms (diagnosis unconfirmed) Diarrhea	104
	Dyspepsia and other disorders of alimen-	
	নুল (tation	38
2.	Rachitis	57
3.	Hereditary Syphilis	23
4.	Zymotic Diseases and their Sequelæ	24
-	Catarrhal Pulmonary Affections (including	
5.	Pertussis)	74
6.	Morbus Cordis	3
	Neuroses (including Epilepsy, Chorea,	
7.	Hemiplegia, and Hemicrania)	14
. 8.	Varia (including Skin Diseases)	10
		-
		500

^{*} A paper read before the Hunterian Society, October 23rd, 1878.

NO. LXIX.—VOL. VI.

It is seen that more than half of the cases which presented themselves manifested disturbances of the alimentary tract.

Already, in a paper read before the Medical Society of London, I have discussed the subject of the intestinal parasites of children, and their influence upon the general health. You will observe that these constitute the most common of the ailments of children. I propose now to consider the disorder next in point of frequency-viz., diarrhœa. make a rough estimate of its prevalence, it is necessary to add to the 104 cases, 13 of those already considered in which diarrhœa was wholly due to intestinal worms. The number of cases in 500 of all diseases would then be 117, or 23'4 per cent. We may say roughly that they constitute about onefourth of all cases; and this estimate accords pretty closely with general experience. The prevalence is very notably modified by the time of year, the maximum being in the three autumn months, August, September, and October; the minimum in the winter months, November, December, and January. On this point our experience is identical with that of others.

The following table shows the ages in 500 cases of diarrhœa under my care at the North-Eastern Hospital for Children:—

Age. Six months and under								
Between 6 and 9 months			Age.					
,, 9 and 12 ,,	Six mont	hs	and 1	anc	ler.			67
", 12 and 15 ",	Between	6	and	9	months			46
,, 15 and 18 ,,	,,	9	and	12	"	•		70
,, 15 and 18 ,,	,,	12	and	15	,,			64
,, 18 and 21 ,,	,,	15	and	18	22			63
" 2 and 4 years 71	,,	18	and	2 I				51
7	22							29
,, 4 and 12 ,,	,,	2	and	4	years			71
	"	4	and	12	"			39
£00							_	
, , , , , , , , , , , , , , , , , , , ,							5	00

We may at once remark that the figure of prevalency in no way accords with the figure of mortality. The danger of diarrhœa is not correlative with its prevalence. For example, 64.6 per cent. of all the cases of diarrhœa occurred between the ages of six months and two years, whilst the RegistrarGeneral tells us that the age for the highest mortality from diarrhœa is between three and five years. Then it reaches to six per cent. of deaths from all causes.—(Fifth Report, quoted by West.)

The most convenient classification for the clinical study of the malady is that according to age. We may best divide the cases into three periods:—I. Those occurring in children of six months old and under. We may call this the predentitional period. 2. Those between the ages of six months and two years—the dentitional period. 3. Cases in children between the ages of two and twelve years—the post-dentitional period.

It will be best, in my opinion, to consider the clinical characters and treatment of the malady in each of the divisions proposed as a section complete in itself. The logical process of exclusion lends itself to the better study of the clinical conditions.

I. Diarrhæa at the Age of Six Months and Under.—It will be seen from the table that these constitute 13:4 per cent. of all the cases of diarrhœa recorded. This proportion is higher than is stated by some other observers. Dr. West, who made his analysis from upwards of two thousand cases, has given 9.7 per cent. only as coming under observa tion under the age of six months. There are many circumstances, however, which indicate that the prevalence of diarrhœa in infants of tender years is understated rather than overstated by the higher figures. Young infants are more generally tended at home. Only among the poorest is there the tendency to bring very young infants to a hospital, especially when the disease in question is one to which the attention of the doctor who officiated at the confinement is likely to be called by those who are in any way able to pay for medical services. In our very poor neighbourhood the children are brought to us at a tender age.

It is quite unnecessary for me to describe the clinical history of diarrhea, but let me say that its study is essentially a *clinical* study; its features are for the most part not explained by morbid anatomy; and its nature, severity, and danger are very inadequately indicated by demonstrative

pathology. I am quite unable to recognise the clinical differences between what have been called "simple" and "inflammatory" diarrhœa. Diarrhœa is the effect of heightened intestinal peristalsis: the irritation which produces this effect may be direct or reflex. When once the nervous centre which governs the intestinal peristalsis is thus disturbed, the disturbance continues for greater or less time, until the paroxysmal activity is subdued. The danger is the secondary result of the withdrawal, by the flux from the intestines, of fluid from the mass of the blood. So are induced both anæmia and toxæmia of the central nervous system, and an obvious sinking in of the fontanelles in young infants, with cerebral phenomena, such as convulsions, almost invariably precede death; and on post-mortem examination positively no local lesions of the intestinal tract itself may be discovered.

Observation of the nature of the dejecta is important for the purposes of prognosis. A. The motions are uniform in character and colour, whether dark or light—the prognosis is favourable. B. The motions are heterogeneous, semisolid, lumpy, with portions of undigested aliment coated with mucus, tinged and flaked here and there with a greenish colour, evidence of the irregular outpour of bile. The prognosis is less favourable than in Class A, but more so than in the two succeeding divisions. C. The motions are heterogeneous, mucoid and watery, and abundant; there is much catarrh of the intestinal tract and outpour from the glands. The prognosis is less favourable. D. The motions are heterogeneous, mucoid, and very watery; there are copious gushes of fluid. Evidences of pain or convulsions may precede the gush. The prognosis is bad. The appearance of blood in the motions may be of serious moment, but is by no means invariably so; but this subject I shall subsequently consider.

Now as to the *etiology* of diarrhœa, occurring during the first six months of life. On analysing the cases, the first and most prominent fact is the large proportion due to premature and improper feeding. Of sixty-seven cases, there were twenty-four in which this was distinctly shown. We may conclude that improper dietary was the cause of the intes-

tinal disturbance in at least one case in three at the predentitional period. As a corollary to this, and equally well proved, is the extreme rarity of diarrhœa in infants kept wholly at the breast. I am well aware that a partial explanation of this fact is found in the character and class of the parents of the little patients. In practice among the higher classes, in the instances in which complete suckling is adopted, diarrhœa is more common. The reason is obvious to my mind that, in the latter class of cases, the secretion of milk is more likely to be disturbed by emotional causes acting upon the mother. Even amongst these, however, it is extremely rare to find the maternal milk persistently disagree. Here I would say dogmatically: in cases where diarrhœa occurs in infants at the breast, let the withdrawal of the child from the breast be not the first, but the final resort. Treat first the mother by (a) allaying irritability, (b) improving, by suitable diet and regimen, the quality of the milk. I may mention a very simple plan that I often recommend: let the mother herself drink from a quarter to half a pint of good milk-in some cases with a little limewater added—a short interval each time before putting the child to the breast. In my experience it does the positive good of initiating a healthy secretion, whilst the no less important negative advantage is gained that the fluid thus imbibed takes the place of other liquids which might be less innocuous. Of course, I allow that there are exceptional cases in which it is impossible to come to any other conclusion than that the mother's milk does persistently disagree, and then it must be withdrawn, and wet-nursing or artificial feeding be substituted. Another cause which may be classed with injudicious feeding we find to be injudicious medication; we frequently meet with cases in which a sharp attack of diarrhea has been started by castor-oil, or by other aperients administered in haphazard manner.

The next most common influence in inducing diarrhæa in the earliest period of life I find to be the influence of *dyscrasia*. In one-ninth of the cases an attack of diarrhæa was the precursor of pertussis or of broncho-pneumonia. In children it is common for diarrhæa to initiate acute disease.

In one-eighth of the cases there was congenital syphilis, and this fact I wish to bring prominently forward. I would say in any case in which diarrhœa persists, and you have excluded improper feeding or the early symptoms of acute disease as a probable cause, suspect congenital syphilis. At this age I have met with cases in which the early condition of rachitis has been the predisposing cause; but the consideration of this will be deferred till the next section.

The other recorded causes of diarrhœa at this age may be summed up as direct and reflex irritation. In the first list figure hernia (inguinal and umbilical) and oxyurides; in the second, falls, especially blows on the head, early dentition.

There remains a considerable number of cases, the causation of which is not obvious. These cases are usually disposed of as intestinal catarrh, but as to the initiation of this catarrh there may be two hypotheses. According to many the initial lesion is an inflammation of the mucous membrane of the bowel, but I think with greater probability the first disturbance is in the central nervous system. We have seen, we all know, how considerably the prevalence of diarrhœa is governed by conditions of season. We have abundantly sufficient evidence to show that this is by no means adequately explained by a changed dietary at any particular season; in a very large proportion of cases we cannot ascribe it to alimentary causes. On the other hand, we do not need to search far for evidence that diarrhea can depend upon disturbed conditions of the nervous system. Shock in children has its expression in emesis, in diarrhœa (commonly in both combined) in convulsions. We have seen how diarrhœa can be the only symptom of direct violence to the head. We have occasionally cases where it is obviously due to exposure to sun or heat. Far more frequently, however, I think the cause may be found in electrical disturbances, not less certain because they are more obscure.

Now as to the treatment of diarrhwa occurring during the predentitional period.—Of first importance is the establishment of a rational system of dietary. The following are the rules which we give to the parents of our patients for guidance:—

How to Bring up Babies.

I. Keep them warm; let the clothing be warm but not tight. Give them plenty of fresh air. Open the windows freely at least twice every day, and send the children out whenever the weather is fine. Wash the child all over with warm water and soap daily (if there be any skin eruption, tar soap should be used), wiping it thoroughly dry afterwards.

Nourishment: under Seven Months.

2. The mother's milk is the most natural, and therefore the proper, food for infants. Let her, therefore, suckle her child, if she have plenty of milk, and give it nothing else until it is seven months old. If the mother have only a little milk, let the child have it, and give it also cow's milk and water, as directed in Rule 3. Begin to wean the baby when it is from seven to nine months old.

How to Bring up "by Hand."

3. If the child must be brought up by hand, it should be fed with warm milk and water out of a bottle. The infant should take at first equal parts of milk and water; but when it is a month old, two parts of milk should be mixed with one of water. Each bottleful should have a small lump of sugar put into it. When good cow's milk cannot be obtained, use the Swiss condensed milk. Begin with a small teaspoonful in half a feeding-bottleful of warm water for a meal; increase the quantity gradually; two teaspoonfuls for a meal is enough for a baby three months old. No sugar should be added. Give the baby no other kind of food whatever. Most of the deaths from hand feeding are due to the practice of giving gruel, arrowroot, cornflour, and other unsuitable kinds of food, which contain no proper nourishment, and should never be given to infants. While the baby is under a month old do not give it more than half a bottleful of milk and water for one meal. The bottle should draw easily. It should be rinsed out with warm water every time it is used. It is a good plan to have two bottles, using them alternately, so that the one not in use may be soaking in soda water till required, when it is simply necessary to

rinse it well with clean cold water. The tube and cork should be kept in clean cold water. If the bottle be not quite clean the milk will turn sour, and the child will be made il.

Importance of Regular Feeding.

4, During the first six weeks the child should be put to the breast regularly every two hours during the day. After that age, about every three hours. During the night it does not require to be fed so often. If the child be brought up by hand, it should be fed regularly in the same way.

Food when over Seven Months.

5. When it is seven months old, the child should have an occasional meal of Nestle's Milk Food, or its milk thickened alternately with arrowroot and Nelson's Patent Gelatine. When nine months old, it should have one or two meals a day of milk thickened with Robb's Biscuit, Hard's Farinaceous Food, Liebig's Malted Food, or good well-baked bread. This should be given out of a bottle, and be made thin enough to pass through a sieve or strainer. The child should still have, besides this, plenty of milk. When nine to twelve months old, the child should be completely weaned. At ten months it should have a little broth or beef-tea every day. At a year and a half it may take a little meat every day, cut up fine or pounded; but even then milk should be its chief food.

Improper Food.

6. Beer, wine, spirits, and all other stimulants; tea, cheese, pastry, and other food such as grown-up people take, should never be given to young children.

Sleeping-draughts, cordials, and all other kinds of medicine should never be administered without medical advice.

In many of the cases of simple diarrhœa which the character of the dejecta places in the first class of those I have mentioned, the change to a suitable diet is sufficient without any treatment by drugs. The next question which presents itself to the prescribing physician is the question of the exhibition of a preliminary aperient. The evacuation of

irritating undigested aliment and foreign material, of acid secretions, of vitiated mucus, &c., commends itself as a reasonable proceeding, and it is so in a large number of cases; but not in all. The question is one of degree. Where the flux is not very rapid and the abstraction of the watery elements of the blood not very copious, the preliminary exhibition of a small dose of castor-oil, of a little sulphate of magnesia, of grey powder, or calomel, or of the powder consisting of grey powder and rhubarb, is most valuable. But when the flux is watery and very copious, you dare not allow the blood to lose more of its aqueous elements by the induced purgation, and the treatment must be by astringents, especially astringent enemata. The next point for consideration is the advisability of astringents. In diarrheas which continue for more than two or three days they are necessary. At the age we are considering, the most suitable are tannic and gallic acids, and the more complex vegetable products which contain them, notably logwood and catechu. For my own part, I find them to be most efficient when combined with bismuth or with chalk. In cases where there is much mucus, ipecacuanha is very valuable; lime-water where stomach secretions are acid. Now as to sedatives. To allay irritability is an obvious indication, but to give opium is a dangerous procedure; at this age I say this almost without qualification, for though it stop far short of its special toxic action, it to my mind tends to arrest the normal processes of nutrition-in fact, it disagrees. I can say almost without exception that I never employ opium in diarrhœa at this age. The sedative which can be safely used in its place is bromide of potassium, and this in doses of from one to three grains I have found very useful. A grain of chloral, with or without the bromide, may also be used with advantage. These are of especial use in the cases which manifest much wakefulness and irritability. Of very high value I have found enemata. An application of half an ounce to an ounce of thin starch will sometimes at once calm an irritable state of the lower bowel, and in many cases one or two repetitions will bring about a cure. In the severe cases, where there is rapid copious watery flux, a starch enema containing five to ten grains of tannic or

gallic acid is, I think, the best possible practice. In the more chronic forms nutrient enemata are occasionally serviceable. Lastly, special forms of nutriment. In the chronic forms of diarrhœa cod-liver oil in half-drachm doses often brings about final improvement. In exceptional cases I have used the raw meat plan of treatment, beginning with the juice made after the cold plan of Liebig, and if that has been unsuccessful passing on to the plan of Weisse, of St. Petersburg, giving finely-shred raw beef passed through a muslin filter and then made into a pulp.

We turn now to the consideration of diarrhea occurring in infants between the ages of six and twenty-four months—the dentitional period. This is seen to be the period of greatest prevalence, comprising 64.6 of cases at all ages (50 per cent., West).

The position occupied in the predentitional period by improper feeding as a proximate cause of diarrhœa is now, according to my view, held by the disturbances connected with the eruption of the temporary teeth. In 90 instances out of 323—i.e., 35.8 per cent. of all cases between six months and two years old—the occurrence of diarrhœa is upon the notes directly ascribed to teething.

The first question which occurs is :-- Are we correct in assuming a relation of cause and effect between the physiological process and the pathological phenomenon? On this point, in my opinion, there is the danger of falling upon two extremes. Some time ago almost every ill that befell a child at this age was ascribed to teething. Children were said to sicken and die of dentition. So diagnosis was very much simplified, a great deal of trouble was spared, anxious parents were satisfied, and their feelings oftentimes calmed as by the magic whisper of the word "Mesopotamia." Now, on the other hand, it seems to me that the danger is in the other direction. Many refuse to acknowledge that a morbid effect shall follow from a physiological process, and they cast about for other causes. Popular evidence, however, on this point is very strong. "He cuts his teeth with the diarrhea," is the assertion so often repeated and evolved from so many sources that it cannot be all false. Moreover, we have the very positive evidence of M. Bouchut, a man unlikely to be led astray by fanciful doctrines. Out of 138 teething children under skilled observation in the Hôpital Necker, 38 had slight and 46 abundant diarrhœa; in 19 of the latter the diarrhœa appeared just at the time when each coming tooth distended the gum, and ceased when the eruption of the tooth was complete, no diarrhœa occurring in the dentition intervals. In other 28 cases, where dentition was difficult, there was prolonged and severe diarrhea. I do not think it is very philosophical to doubt the probability of the influence of the eruption of teeth in provoking the diarrhœa of children. We ourselves know how our nervous equilibrium is upset by affections of the gums and teeth. The cutting of a wisdomtooth is often attended by severe symptoms. The whole man is racked by a troublesome molar:-

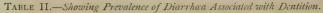
"For there was never yet philosopher
That did endure the toothache patiently."

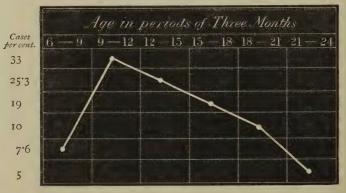
And what Shakspeare said is still true. In infants the evidence of local suffering with teething is undoubtedwitness the injected, hot, and tumid gum, the shrinking and agitation when the finger is introduced into the mouth, such resistance often ceasing and giving place to signs of comfort when by gentle friction the tissues over the tooth are rendered anæsthetic. In a certain proportion of cases, then, I am convinced of the causal relation subsisting between peripheral irritation of the fifth nerve by the process of the eruption of a tooth and diarrhœa. The process of dentition itself may be likened to the secretion of calcareous matter by the dental follicle, such secretion causing pressure upon neighbouring tissue, and thus inducing irritation—this irritation varying greatly in degree in different The nervous disturbance so occasioned finds its most frequent expression in diarrhæa.

Now, as regards the period of dentition in which diarrhoea occurred. We may call the period between the ages of six and nine months the period of *incisor* dentition; in this period occurred only 7.6 per cent. of the cases. Between nine and fifteen months we may term the period of chief *molar* denti

tion; in this period occurred no less than 58.2 per cent. From fifteen to twenty-one months, we may term the period of *canine* dentition, now the percentage fell to 28.1. From twenty-one to twenty-four months, the period for the eruption of the posterior molars, there occurred only 5 per cent.

TABLE I.—Showing Prevalence of Diarrhaa at different Ages.





It is clear therefore that the prevalence of the diarrhœa which we suppose to be due to dentition attains its maximum suddenly just when the molars begin to emerge; that it con-

tinues with a slight declination during the whole period of early molar dentition, and then gradually falls to a minimum when the temporary teeth, excepting only the posterior molars, have fully made their appearance.

As regards the *treatment* of diarrhœa depending on dentition: I believe much good results from friction of the gum by the finger moistened by honey or glycerine. Incision by the gum lancet is with us reserved for very rare cases. The medicinal treatment falls for the most part under the rules already given, but I would add that I have found great good result from the administration of bromide of potassium in two to four grain doses. With rational dieting this treatment is oftentimes successful without resort to astringents. In cases which become chronic, one to two minims of tr. opii. may be occasionally administered, or a grain of Dover's powder. Iron and cod-liver oil are used with great advantage in the chronic cases, and, in exceptional ones, the raw meat diet.

The next most potent cause for the induction of diarrhœa in the dentitional period I find to be a condition of dyscrasia.

Rickets is recorded in 37 cases out of 323, whilst 33 are directly ascribed to errors of diet. Of course it is logical that these two causes should be treated as closely allied, the one being in many cases the outcome of the other. The treatment of diarrhea occurring in the subjects of rickets I do not propose to consider now. Instances of diarrhœa initiated by errors of diet are obvious enough. We sometimes find the milk to be sour; often in answer to questions as to the diet of the infant of this age we are told that "he eats everything;" or the parents say, "he has what we have." Another formidable dietetic error is prolonged suckling. In nine cases diarrhea was distinctly due to the child being suckled after the proper time for weaning. After dentition, rachitis, and improper feeding, the next most common cause of diarrhea at this age is the onset of acute disease, chiefly whooping-cough or broncho-pneumonia. This occurred in twenty-six cases. Frequently also it is a phenomenon subsequent to acute febrile diseases; this is especially the case with measles. Next in the order of etiology comes congenital syphilis—to which is accredited thirteen cases. It is obvious, however, that this is a much less frequent cause than in the earlier period of infancy; for whilst in the former period 125 per cent. of the children were victims of congenital syphilis, now the proportion is only 4 per cent. of all the cases of diarrhæa. Another cause which, beginning to become manifest in the earlier period, increases during the dentitional period to arrive at its potential maximum in the period next to be considered, is the influence of intestinal worms. The irritation of worms distinctly caused diarrhæa in eleven cases at this period. The same causes of direct and reflex irritation—blows and falls, herniæ, &c.—are provocative of diarrhæa in this as in the former period.

Now as regards diarrhæa occurring in the post-dentitional period—i.e., at the age from two to twelve years.

Of 110 cases 34 were the victims of intestinal worms. I do not mean that the children were merely hosts of these worms and that the diarrhœa might be due to other causes, but that, according to my full belief, the intestinal flux was directly due to the parasites. I believe that the evil influence of these pests is very insufficiently acknowledged. I suppose it is that familiarity breeds contempt. They are so common. Very many doubt that they have a pathological influence; they know them to be the concomitants of neglect and dirt, and they attribute more to the uncleanly surroundings than to the parasites themselves. But surely an analogical argument can be derived from the experience of other prevalent parasites—fleas. These also luxuriate amongst dirt, &c., but in a child covered by flea-bites and suffering from their irritation we should not attribute to the remote cause only (the dirt) the itching which is due to the proximate (the flea). The threadworm (Oxyuris vermicularis) and the round worm (Ascaris lumbricoides) are the chief of the parasites which cause diarrhœa. Of these the former are extremely common. They are even more ubiquitous than fleas; their ova are transmitted from person to person, and are constantly conveyed by their host from rectum to mouth. They dwell in and cause irritation of the whole of

the intestine, but more especially the colon and rectum. Verminous diarrhæa is observed even in early infancy, but it is to be noticed how its prevalency increases as the child becomes omnivorous and ubiquitous. Thus in our cases in infants of six months and under, the figures give a percentage of $1\frac{1}{2}$; between six and twenty-four months, 3.4; and in the period between two and twelve years, 30.9. I have found that symptoms due to intestinal worms constitute the most common of all the ailments with which our hospital deals. The proportion is 145 out of 500 cases— 29 per cent. Of these, about one in eight manifest diarrhœa or some affection of the lower bowel. The presence of oxyurides is by far the most common cause of (a) the appearance of blood in the stools, (b) prolapse of the rectum. It follows from this that I do not regard the presence of blood in the stools—the so-called dysenteric appearances as of the grave import ascribed to them by some authors. Verminous diarrhœa closely resembles dysenteric, and accurate observation should be made of the voided matters to establish the diagnosis. On the point of the actual observation of the worms, the testimony of parents and nurses has only a certain value. Only the other day, at the London Hospital, a case of prolapse of the rectum in a young child was sent me, and before seeing the patient I was telling the students that the most common cause of such prolapse was the presence of oxyurides, when I was met by the parent with an indignant denial that her child suffered from such pests. On our inspecting the anus, numerous large oxyurides were seen to be presenting and displaying active gyrations.

The ordinary treatment by astringents is frequently unsuccessful in verminous diarrhea. The first indication is, of course, the expulsion of the intruders; this is sometimes done by the natural efforts of the bowel; no aperient medicine has any *special* value in case of threadworms, but santonine is the medicine *par excellence* in round worms. When there is frequent irritability and diarrhea in the subjects of oxyurides, no treatment is so valuable as small enemata of starch.

In the post-dentitional period, rachitis still has an influ-

ence in predisposing to diarrhœa, though this influence is far less manifest than in the former period. It is the earlier period of rickets which is particularly attended with intestinal disorder. In this period 6.3 per cent. of the cases were rachitic, and 5 per cent. were in subjects presenting the signs commonly known as those of struma.

Of course, errors of diet are also represented in this period as a cause of diarrhoea; but the relationship which now presents itself as most important is with zymotie disease. have seen that in the former periods diarrhoea is an initial symptom in some pyrexial diseases, especially pertussis and broncho-pneumonia, and a sequela in others, such as measles. In the post-dentitional period I have found it associated with broncho-pneumonia, rubeola, ulcerative tonsillitis, pleuritis, erysipelas, and typhoid fever. Now we may briefly discuss the interesting question whether there is a direct zymotic causation for diarrhœa. I mean whether, excluding the special contagium of typhoid, the agency of which in causing diarrhœa is obvious, we have a right to conclude that there is any other form of contagion which, acting directly upon the gastro-intestinal tract, produces the excited peristalsis.

On this question Dr. William Johnston, of Leicester, has lately offered some interesting evidence.* In Leicester, summer diarrhœa rules with a high mortality. Dr. Johnston devoted himself to the microscopical examination of the bowel discharges of those who suffered, and in the course of such examinations he himself acquired the disease no less than five times. In the liquid portions of the stools he found innumerable bacteria, which he believes to be constant to the disease. These bacteria do not seem to be specialised forms, but have the characters of micrococcus and of bacterium termo, and are met with not in the stools only, but in the vomit of infants at the breast. Dr. Johnston adds:—"I have never been able to detect bacteria in the liquid motions of infants during health, and amongst my patients I ob-

^{* &}quot;Summer Diarrhœa: its Nature, Cause, and Treatment." Lancet, Sept. 21st and 28th, 1878.

served that the gradual disappearance of the bacteria from the stools was in great measure commensurate with their recovery." He found like bacteria in the moist air of sewers and of cesspools, and he showed that they were carried into the atmosphere by the ascensional force of evaporation; milk in badly sewered districts was found to be infected by them, as also was the juice of over-ripe fruit. The atmosphere of the infected districts during hot summer weather, when filtered, was found to yield micrococci, whilst no bacteria were detected during April and May. The commencement of summer diarrhœa in Leicester during the past two years has been contemporaneous with the appearance, in large numbers, of bacteria in the air of some of its sewers. So Dr. Johnston concludes that "(a) diarrhœa, as it affects both adults and infants during the summer months, owes its origin, in the large majority of instances, to the introduction of minute living organisms (bacteria) into the system by means of air or in food; and (b) the disease depends upon putrefactive changes in the bowel contents, which changes are correlative to the development and multiplication of these microscopical organisms."

Whilst by no means advancing a direct negative to Dr. Johnston's conclusions, I would urge the reception of the generalisation with a great deal of caution. You will observe that my experience has convinced me of the powerful agency at all periods of infancy and child-life of reflex causes acting upon the nervous system as inducing diarrhœa. By the method I have adopted of exclusion, you will observe that the cases the causation of which is as yet inadequately explained are few-in fact, that an irritation of the gastrointestinal tract, direct or reflex, by non-zymotic agency, is an adequate explanation of the great majority of the causes of diarrhœa. Then when we come to the consideration of causes that are admittedly zymotic, we find that these in great probability act in a reflex, and not in a direct mannerwitness the diarrhœa of pertussis, measles, and erysipelas. Then it behoves us to be very cautious in receiving the evidence derived from the microscopical examination of the excreta. I think few observers will be inclined to agree

with Dr. Johnston as to the immunity of the fresh excreta of diarrhœa-free children from bacteria. On the contrary, these have been found in health in the contents of all parts of the gastro-intestinal tract. And granting that they are greatly increased in number in the excreta of the affected persons, a causal relation is unproven, for in all conditions of mucous catarrh in which there is much outpour of secretion from the fluids, a suitable nidus is afforded for the rapid propagation of low organisms.

On the other hand, there is quite sufficient evidence that diarrhœa may be initiated by the inhalation of the emanations of decomposing sewage. Some positive evidence on this point is recorded in the work on Hygiene by the late Dr. Parkes. Dr. West gives some cases which are instructive and suggestive on the question of the influence of sewage emanations and unhealthy air in inducing the severer forms of diarrhœa in children.* From my own experience I should incline to consider contamination of water a far more common cause of diarrhœa than contamination of air. but I quite agree that the latter is a cause.

From all extant evidence, I think the conclusion is a just one that, excluding cholera and typhoid, we have no specific contagium which, operating upon the gastro-intestinal tract, induces diarrhœa. I do not understand Dr. Johnston to assert the contrary. The germs which may have morbific action as intestinal irritants are the ordinary germs which excite putrefaction, and the diarrhœa which may arise from their importation into the economy is strictly analogous with that which ensues from the coarser exhibition of food in a state of decomposition. Such septic diarrhœa, though rare in our cases, is probably much more common in the towns where sanitary improvements have been less enlightened. Like other observers, I have seen what I believe to be decided instances of it, and, as in Dr. Johnston's cases, these have in many instances yielded to antiseptics, especially to sulphite of soda. I would add that these have been usually attended with high temperature. With us, however, these cases have been infrequent and sporadic.

^{* &}quot;Diseases of Children." Sixth Edition, p. 657.

NOTE ON THE TREATMENT OF CHRONIC INVERSION OF THE UTERUS.

By LAWSON TAIT, F.R.C.S.
Surgeon to the Birmingham Hospital for Women.

IT is somewhat surprising to find recorded in the last volume of the Transactions of the Obstetrical Society of London no less than three recent cases of chronic inversion of the uterus treated by amputation of the inverted organ. It is now more than twelve years since it was first proposed by Simpson and Tyler Smith to rectify this displacement by continued pressure, and the amount of evidence which has accumulated in that time has completely failed to show that there is any large number of cases, if indeed there are any cases at all, in which sustained elastic pressure, properly applied and properly watched, will not effect reduction. Since 1869, when I published a case in which I succeeded in reducing the uterus by Tyler Smith's plan, a large number of modifications of his treatment have been proposed, the most important of which is the placing of a ring round the inverted uterus, so that the pressure may be directed fairly on the fundus. This partly removes one of the chief objections to Smith's operation, which was that the pressure of the elastic ball pressed the uterus laterally, so that the ball itself interfered greatly with the very process which it was desired to effect, and that therefore much more force had to be exercised than was necessary. This excess of force acts prejudicially upon the walls of the vagina, upon the bladder, and rectum, and I am by no means sure that some part of the fatal issue in the case alluded to was not to be laid to their account. The distension of the vagina by the ball also leads to its occasional expulsion from the vagina, as in one of the cases narrated in the last volume of the Obstetrical Transactions, and it thus makes impossible this plan of treatment.

I was lately called upon to consider all these points in connexion with a case of this displacement which I had to treat, and in which I found the vagina so large that it was evidently impossible to apply the sustained pressure by the

elastic ball. On reading the pamphlets of Professor J. P. White, of Buffalo, I was struck by the success of his treatment, but I was also impressed, as others have been, by the evident dangers which accompany the forcible method of replacement. I have had a sufficiently large experience of the uterus to have learned that it will stand a great deal if patiently dealt with, but that it frequently resents violence.

The instrument by which Professor White applies the pressure to the uterus at once struck me as the right sort of thing for the purpose, though I did not approve of his method of its use. It was apparent that no plan could so effectually diminish the size of the inverted uterus as pressure upon it by a conical cup; and it was equally evident that the best way of dilating the contracted and inverted cervix was to make it do the work, as it were, by pressing upon itself.

To combine the plans of Tyler Smith and Wood was then the idea which presented itself to me, and there was no difficulty in its execution. A few experiments satisfied me at once that the theoretical necessity for a consideration of the pelvic curve did not in actual practice exist, and that by direct pressure, exerted through a straight stem, every requirement would be met. I therefore had boxwood cups made of three different sizes, with the intention of dividing the operation into three stages. The smallest of these hardly merited the name of a cup, as it was a mere expansion of the extremity of a rod, slightly cupped on the end. Each of the instruments had a stem about six inches long, with notches at the end, into which strings were tied. The method of the performance of the replacement was extremely simple and perfectly efficacious, as the following brief history of the case will show :-

E. R., from Walsall, aged twenty, was admitted under my care as a patient at the Women's Hospital on February 4th. She had been confined ten weeks previously, and had been attended by a midwife. She had lost a large quantity of blood, and was extremely anæmic. A profuse bloody discharge was issuing from the vagina, and her urine was passing involuntarily. On examination it was evident that

the uterus was completely inverted, as round the neck of the pear-shaped tumour which occupied the vagina not even a sulcus could be found. Complete involution of the organ had occurred, so that the inversion had passed into the chronic stage. The incontinence of urine was found to be due to paralysis of the sphincter, and not, as at first I suspected, to a fistula.

I kept her rigidly in bed and fed her well, giving her also small doses of dialysed iron. On March 7th the incontinence was cured. I proposed to begin the treatment I intended, but found that menstruation had begun. It lasted till the 15th, but was never very profuse. On the 17th, at 10.30 A.M., she was placed under ether, and the large-sized cup applied to the inverted uterus. To the stem were applied two doubled threads of elastic, and these, when tightened so as to give a very slight strain, were secured to a belt of sticking-plaster fastened round the waist, the pubis and sacrum being protected by folds of lint. The pressure exercised did not in all probability exceed three-quarters of pound, or a pound at the utmost. I gave her a quarter of a grain of morphia under the skin, though from the utter absence of pain during the process I think that this was almost a needless precaution. An anæsthetic was employed only because the patient was extremely and unusually sensitive, and with a patient of an ordinary temperament I do not think it would have been necessary. Next morning when I visited her I found her employed in knitting, and giving no indication of the really grave operation which was in progress. I had her placed under ether again, and found that the cervix had yielded, and that the cup was inside the reinverted uterus. By a mistake of the instrument maker, the apparatus had been made in two pieces, the stem having been screwed into the base of the cup. Unfortunately, the two pieces had been made of different kinds of wood, and as that of the cup had swollen much more than that of the stem, the screw had loosened, and when the stem was removed I found the cup was retained in the uterus, with the cervix closed tightly over it, so much so that I had considerable difficulty in removing it. When I did get it out, I found that the re-

inversion was not complete. I therefore put in the smallestsized cup, and arranged it as I had done the other. 10 P.M. I removed it without ether, and found the reduction complete. During this latter part of the process she complained of some pain, and required another hypodermic injection, but I suspect that her sensitiveness exaggerated her suffering.

For a few days the cervix remained somewhat open, and in order to induce contraction I ordered her two teaspoonful doses of the liquid extract of ergot night and morning. On March 24th I found the uterus retroflected, and as I could feel in its new position the whole of the fundus, I had satisfactory evidence of the complete success of my operation. To relieve the backward displacement, I fitted her with a ring. On the 20th she got up, and on April 1st she left the hospital, perfectly well.

During the treatment her temperature never rose, nor was there the slightest symptom to cause anxiety, and I think that the ease and the simplicity of the treatment entitle me to say that in future very few cases should be submitted to the extreme measure of amputation. Even when a myoma has been the cause of the inversion, I think the organ may be replaced, for it would hardly be likely that any tumour would cause inversion which could not be enucleated, and after the wound had healed the uterus might be easily replaced in the manner I have described. Even in the rare cases when adhesions have formed, I think this method will overcome them, and I think it will do so with less risk than is involved in the serious operation of removal of the uterus. I have had cups made of ivory, so that a repetition of the accident I have described will not be likely to occur.

Since the above was written, Dr. Aveling has pointed out to me that Dr. Barnes had proposed a similar method of treatment in a paper in the first volume of the OBSTETRICAL JOURNAL. The details of his mechanism differ somewhat from mine, and I venture to think that the advantage is on

the side of the modification I have adopted.

- CASE ILLUSTRATING POINTS IN THE MANAGE-MENT OF TEDIOUS LABOURS.

By Dr. G. Hamilton, Falkirk.

In the November number of this JOURNAL I gave a short account of a case illustrating some points in the management of tedious labours.

The following is another:-

Mrs. —, primipara, aged twenty-three years, of short make, had slight pains during the early morning of October 28th, and the membranes ruptured about 6 A.M. I saw her shortly after o A.M., when I found the os uteri about the size of a half-crown piece, and the pains regular, but not very strong. I left her for an hour and a half, and when I returned put Ziegler's old forceps in my pocket (foolishly, I must confess), from its being light and handy, in case I should require it. The pains continued, making progress, though slowly, until noon, when the head had passed the os uteri, and a large caput succedaneum pressed on the perineum. The left ear, with the face to the right side, could be felt to the left of the symphysis, being my third position,* in which I say the ear is on the wrong side of the symphysis. As, during the next half-hour, no progress was made, I applied the forceps as I usually do, nearly antero-posteriorly, using traction, and, as far as I could, leverage, for eight or ten times, when the pains occurred, but found that, whenever I turned the instrument round the pubes, the head was so firmly fixed that the posterior blade lost its hold, and the instrument came off. Fortunately my residence was near at hand, and my stronger instrument was quickly got. In applying it I found the ear in nearly the same situation as before. Again I placed the first blade over it, and let the other blade take its own course. My confidence in the power of my instrument was so great that I did not wait for the assistance of a pain, but instantly used combined traction and leverage, making the head of the child revolve round the pubes, and the handles

^{*} See British and Foreign Medico-Chirurgical Review for January, 1872, p. 171.

of the instrument pass between the limbs of the mother. Of course I had to get into the bed to do this satisfactorily; but the effect was that, certainly within two minutes, the head of the child was born. In the sweep made by the forceps round the pubes I noticed that the flat side of the blade remained nearly facing the symphysis until the head passed the os externum.

The child would weigh, I should say, ten pounds, and both it and the mother did well. There was a slight excoriation, the size of a sixpence, behind the left ear, and the muscles on that side of the face were slightly paralysed for three or four days, but even these were more than I have seen in any of my forceps cases for eight or ten years-indeed ever since I have used my stronger instrument—and were evidently due to the fenestra, and the slipping of the weaker forceps, solid blade of my forceps, which I generally apply next the pubes, is a great improvement on the fenestrated one. It is the thin fenestrated portion that cuts and injures the scalp. The solid blade leaves almost no mark. If this be the case, of which from my experience with the solid blade I have no doubt, the question may be asked why forceps should be fenestrated at all? In Ziegler's form of instrument one blade must be fenestrated to secure the advantage of locking, and fortunately this, usually the posterior blade, seldom inflicts the slightest injury; but why forceps that lock otherwise should not be solid in the blades is neither apparent, nor perhaps reasonable. The reply that the instrument is thus made somewhat lighter for the surgeon to carry, which is the only reason I have ever heard given, seems too trifling to be replied to. From experience I can say further that, in difficult cases, a solid blade is much easier introduced than a fenestrated one.

When this child would have been born, with such feeble pains, had I not used the forceps, seems to me difficult to say. The parts of both mother and child had begun to swell, and a few hours more of futile labour would probably have furnished one of those cases of impaction I used to see in the early part of my practice, in which it was thought

absolutely necessary to sacrifice the child for the sake of the mother. Had I even possessed only a shorter forceps than the one I now regularly use, the result to the child might possibly have been fatal; and, whether fatal or not, the scalp would most probably have been pretty severely injured. A long and strong forceps is absolutely necessary to deal satisfactorily with such cases as this. Ziegler's, which I first used, is not a short instrument, for it measures thirteen inches, and is therefore longer than Ramsbotham's, Beaty's, or Matthews Duncan's,* and yet it continually slipped. It wants both length and strength. One of the blades of the instrument I used for thirty years got somewhat bent from weakness. After some eight years' use, the forceps I now use (which I have formerly said is thirteen and three-quarter inches long) is as correct as when I got it. If practitioners will persist in using "short forceps" as a rule, reserving "long forceps" for emergencies, it is only too obvious that unpleasant results will follow.

The practical conclusions I arrive at here are—

1st. That in such cases, where the labour is allowed to be continued long, or to be finished by the pains alone, risk to the child is imminent and great.

2nd. That, even when the head is so far advanced that an ear can be felt near the symphysis, a long and strong forceps should be used.

3rd. That, in applying the instrument as I usually do, antero-posteriorly, it is a mistake to think that the mechanism of labour necessitates the turning of the face into the hollow of the sacrum, and quite unnecessary to make any effort to procure this. I do not object to this turn taking place when it does so spontaneously, but I think, speaking loosely, that, in more than three-fourths of the cases I deliver with the forceps, the face never turns into the hollow of the sacrum at all.

The knowledge of this fact has now become paramount in this branch of our profession, for it leads to the use of a

^{*} See British and Foreign Medico-Chirurgical Review for January, 1872, p. 180.

different instrument, and to a different use of this instrument, from what had formerly been thought of, and this, too, with enormous advantages in its favour. Let any one, as I have said in the British and Foreign Medico-Chirurgical Review, for January, 1872, p. 181, take the bony pelvis and make the flat portion of a straight forceps revolve round and under the arch of the pubes, and it will be seen at once what advantage as to space, and power as to leverage, not to speak of its simplicity, are gained by this mode of delivery. It is of no use, however, giving these instructions unless the practitioner has a proper instrument, and I therefore say to him emphatically, as I said before, "get rid of the double-curved forceps," and more especially, "never use a 'short forceps' of any kind." I have said so much upon this point already that I very unwillingly revert to it here, but it is painful to me to notice in periodicals that have come into my hands lately (Medical Times for September, and OBSTETRICAL JOURNAL for November, 1878) really horrible details of injuries that have been inflicted in forceps deliveries. Whether or not these have been put forward for the purpose of deterring the profession from instrumental interference in labour cases, there can be no doubt that their occurrence must produce on the minds of the public a dreadfully deterrent effect as to the use of this valuable preservative instrument; and I can have no hesitation in saying that, as an almost invariable rule, their infliction is altogether unjustifiable, because quite unnecessary. We may have cases where the forceps fail, and where craniotomy may be required, but in the whole of my practice since I used Ziegler's straight form of forceps, which must be near forty years since, I have seen none except the most trifling injuries inflicted on the scalp of the child.

Notices and Reviews of Books.

A Clinical History of the Medical and Surgical Diseases of Women. By Robert Barnes, M.D. Second edition. J. and A. Churchill. Pp. 918.

THE second edition of Dr. Barnes' excellent work, which appears after an interval of five years, will confirm the reputation which it has already gained as the ablest as well as the most comprehensive of recent British works upon the subject. To its author the British school of Gynæcology is indebted for the large-minded spirit in which he has studied the diseases of women, not merely as a speciality, but in their relations to general medicine, and from his extensive gynæcological experience has thrown a new light upon many problems of general pathology, and even physiology. He is also remarkable for his freedom from any undue leaning to one theory or the other as to the most common or most important cause of disorders in the sexual organs of women, as that they chiefly depend on displacements of the uterus, on inflammation of the cervix, or on morbid ovulation. all these their proper place is assigned, without undue prominence. He shows also a very extensive acquaintance with continental and other authorities, an excellence which is not always that in which English authors shine the most.

The present edition contains a considerable amount of new material, although its size is increased only by two pages, much space having been gained by the arrangement of many of the divisions of the subject in sections instead of separate chapters. The number of illustrations which formed so marked a feature in the value of the original work is increased from 169 to 181.

To the anatomical description of the pelvic organs the author has added new matter derived from Sappey's "Anatomie Descriptive," and four new illustrations taken from that author are introduced. We find also a new anatomical fact deduced from Dr. Barnes' own observation—namely,

that Douglas's pouch of peritoneum is not centrally situated, but, in the normal condition, descends considerably lower on the left side. Recent researches and discussions on the physiology of menstruation have led the author to re-write the sections on this subject. A side of the question is here ably set forth which investigators of the changes in the uterus and ovaries have been apt somewhat to disparage or overlook, namely, the important part played by the general system and by the nerve centres in the initiation of menstruation, as shown by the increase of vascular tension and of reflex nerve irritability in the stage preceding a period. Sphygmographic tracings by Dr. Fancourt Barnes are given to illustrate the high tension preceding menstruation and that of gestation, but scarcely afford so conclusive an evidence as might be adduced. The former is not very characteristic, while to the latter there is no companion tracing to show the pulse of the same person when not pregnant. In neither case is there any record of the pressure at which the tracings were taken, or that required to arrest the pulse, data which, as sphygmographers are aware, furnish the only means of distinguishing those curves due to high tension from the similar curve which may be produced by arterial change. As to the exfoliation of the mucous membrane in menstruation, Dr. Barnes appears to accept the view of Dr. John Williams, that the whole thickness of the tissue usually regarded as mucous membrane is cast off at each period, and he introduces figures, taken from that author, to illustrate this process. He does not mention the strangely conflicting results of the observations of Kundrat, Engelmann, and Leopold, although figures after Kundrat are given to show the relative thickness of mucous membrane at different stages of the cycle. Some sentences, however, are retained from the old edition which appear scarcely consistent with any variety of the more modern theories. Thus, after mentioning the development of the vascular reticulation of the mucous membrane in connexion with menstruation, he says—"According to all probability it is through the walls of these ramuscules that the menstrual blood oozes." It is stated that it is chiefly at the end of the period of abatement of the menstrual flow that the Graafian vesicles may burst spontaneously, and also that, when the menstrual discharge has ceased, the internal surface of the uterus casts off numerous epithelial scales. Our own observations have always shown that it is chiefly during the first two or three days of the period that the elements of the mucous membrane of the body of the uterus are to be found in the discharges, and this is in accordance with the modern researches on the mucous membrane itself.

The most considerable interpolation in the new edition is a new and very valuable chapter on the significance of symptoms connected with bladder and bowel disorders in relation to uterine and peri-uterine affections, the importance of which, as complimentary to the proper subject-matter of the book, all who have to do with the diseases of women will at once recognise. In the chapter on diagnosis, we observe that the recommendation of a modification of Henry Bennet's bivalve speculum, having a plug whereby to introduce it, and the figure representing this instrument, is discarded in favour of the simpler Cusco's speculum. We perceive that the modification of Neugebauer's speculum, figured in the former edition, is to be known henceforth as Dr. Barnes's "Crescent Speculum."

After the recent discussions on the propriety of active surgical treatment in extra-uterine fœtation, the success of the antiseptic method in abdominal surgery, and the triumph of Mr. Jessop, of Leeds, in saving both mother and child in one case, all readers will look with interest for Dr. Barnes's present judgment on this subject. They will find that the passages stand as in the former edition, in which he expresses an opinion adverse to performing gastrotomy in early tubal rupture on account of the probable difficulty in finding the source of bleeding, and the possible pain which might be produced by a ligature, and also decides, against Levret, Velpeau, Kiwisch, Koeberle, and others, that with a living child at full term the mother's safety is best attained by not resorting to any immediate operation to remove it. last conclusion is now further supported by the recent statistics of Dr. Parry, who reports that in twenty cases of pri-

mary gastrotomy fourteen mothers died, and only twelve of the children survived, some of them only for a brief period, while in 188 cases which went to, or beyond term, 99 died, or 17:35 per cent. less than if they had been subjected to gastrotomy with the hope of saving the child. It is to be remembered, however, that in many of the cases tabulated by Dr. Parry, attempts were made to remove the placentaa plan now justly condemned. The great dangers of operation being hæmorrhage and the decomposition of the placenta, we cannot but entertain the hope that the antiseptic method may yet enable conservative surgery to effect an improvement on the very high mortality, 52.65 per cent. of cases left to Nature, especially when it is remembered that in some of these cases perils may yet have arisen after they passed out of observation. Dr. Barnes would still recommend waiting until signs of an eliminative process begin, or symptoms of rupture or shock appear. On this point the statistics of Dr. Parry, who found that in thirty-six cases of secondary gastrotomy, performed some time after full term, not including those in which the operation was merely to assist the effort of Nature, the mortality was only 38.88 per cent., would seem rather in favour of interference as soon as the puerperal state had completely subsided.

In the chapter on ovarian tumours, there is a new section on diagnosis by the examination of the fluids drawn by tapping, and a plate is introduced, after Dr. Drysdale of Philadelphia, showing the microscopic characters of ovarian fluids, and especially the so-called granular ovarian cell of Drysdale. Dr. Barnes gives his own experience that in the most critical cases, where ordinary methods give only doubtful evidence, and where, consequently, we should most anxiously seek for assistance, this method has led to disappointment or error. He records, however, the strong testimony of Thomas, Byford, and Atlee to the general accuracy of Drysdale's test when applied by himself. As to the important practical point, whether the withdrawal by tapping of a limpid fluid like water, with low specific gravity, and containing only a trace of albumen, or none at all, is a proof that the cyst is not ovarian but a parovarian or other

extra-uterine cyst, Dr. Barnes's guidance appears to be not very decisive. He states that such a fluid comes probably from a broad ligament cyst, and that a specific gravity below 1010 tells against an ovarian tumour; but, at another page, he follows the classification of Eichwald, according to which the first group of abnormal ovarian fluids comprise those which are very liquid, have a specific gravity ranging from 1003 to 1006, and contain no albumen, but a trace of albuminose.

To the chapter on the treatment of ovarian tumours are considerable additions, including discussions on the application of electrolysis, of the use of drainage in ovariotomy, of the division of the pedicle by cautery, and of Thornton's ice-water cup in pyrexia after the operation. The closure of the wound by carbolic dressings is described, but there is no account of the use of the carbolic spray for the operation, except an allusion to it in a quotation from Keith. Barnes, like Mr. Spencer Wells, holds to the extra-peritoneal treatment of the pedicle by clamp as being the best. It appears, however, rather an omission not to describe the mode of treating it on the intra-peritoneal plan by carbolised silk ligatures in connexion with the antiseptic spray, which has been adopted by most of those who have applied Lister's method in its fullest extent to ovariotomy, and with very brilliant results. In the case of ovarian tumours, complicated by pregnancy, and requiring intervention, Dr. Barnes differs from Mr. Spencer Wells, and holds to his opinion in favour of acting on the uterus by inducing labour, rather than on the tumour by ovariotomy or tapping.

In the chapter on endometritis, the author recommends the use of his own ointment-positor for the application of nitric acid to the interior of the uterus in preference to Atthill's canula or its modifications. In that on the displacement of the uterus, a new section is introduced as preface, in which general principles are enunciated. In the description of prolapse, the view expressed in the former edition is maintained, that what to the eye appears to be procidentia uteri, and was long believed to be procidentia, is, in the majority of cases, only a hypertrophic elongation of the cervix; that

the vagina is a passive, not an active factor in the production of prolapse; and that the thinning of the cervix often observed is due to consecutive atrophy, which chiefly occurs in old women. We cannot but think that this attenuation of the cervix is a proof that its elongation is not primary, but the result of tension, according to the view held by many German authorities and ably enforced by Dr. Matthews Duncan. In the account of the treatment of prolapse, a new figure is introduced of a pessary invented by Dr. Scott, of Canada, which is supported by a single perineal band, on the principle of those better known as Cutter's pessaries. As to the treatment of anteversion and anteflexion, the author speaks with still higher laudation than before of Dr. Graily Hewitt's cradle-pessary, which is pronounced the best designed of all. He still mentions Thomas's anteversion pessary with commendation, but has omitted the figures illustrating its use, and makes no allusion to the more recent forms of anteflexion pessary recommended by that author. Two new figures are given, illustrating the reduction of a retroflexed uterus by finger and by sound. In the account of inversion of the uterus, a report is introduced of a case successfully treated by the author by longitudinal incisions through the circular fibres around the internal os, the first recorded success by this method, which had previously been suggested by Marion Sims and others. The figure is still given of the author's repositor having a strong pelvic curve, but we think that it clearly involves a loss of mechanical power, and an imperfectly directed pressure, and that for cases of inversion for which a straight instrument does not answer best, it will be superseded by Dr. Aveling's doublycurved repositor.

Among other additions in the present edition is a paragraph on the treatment of intra-uterine fibroids by actual cautery, according to the plan lately described by Dr. Greenhalgh; a figure of c se in which the author lately removed by gastrotomy a uterus enlarged by fibroid tumour, and then found a fœtus of two-and-a-half months' development in the uterine cavity, locked between two tumours; and a discussion on Battey's operation for the removal of

functionally active ovaries. In the case of uterine fibroids, this operation is received with a very qualified and conditional approval.

The operations for ruptured perineum and for vesicovaginal fistula, which had been before treated more summarily than the less distinctly surgical parts of gynæcology, are now described with ample detail. To illustrate the lesion in the former case, and the operation for its cure, four new figures after Thomas are introduced.

In a volume which contains such a wealth of information, both original and derived from other sources, it may seem hypercritical to complain of what is absent. But there are some modes of diagnosis or treatment which have been highly praised, of which we might have expected some mention in so comprehensive a work, although in some instances we think that the author is justified in his rejection of them. To some of these allusion has already been made. In addition to them we may mention the use of the uterine probe through Sims' speculum in place of the sound; the use of the liquor ferri subsulphatis of the United States Pharmacopæia as a less irritating styptic than the perchloride or persulphate of iron; the treatment of fungoid endometritis by Thomas's blunt wire curette; the elastic ring pessary, containing a spiral coil of wire, which often affords great comfort in prolapse; the several varieties of Cutter's pessary, one of which so high an authority as Dr. Thomas pronounces the most perfect of those instruments for prolapse which take an external support; and the plastic method of Marion Sims for amputating the cervix and stitching down flaps of mucous membrane, with the expedients which others have used for performing this operation after the bloodless method.

Abstructs of Societies' Proccedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, Wednesday, November 6th, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

The following gentlemen were elected Fellows:—

Izett William Anderson, M.D. (Jamaica); Edmund Everman Day; John C. Eaton (Ancaster); Richard Ellery (Plympton); Louis Henry M.D. (Melbourne, Victoria); Nathaniel H. K. Kane, M.D. (Kingston Hill); Albert Angus Macdonald, M.B. (Toronto); and

George Mowatt (Swansea).

Dr. A. E. Aust Laurence, of Clifton, showed the uterus and appendages of a woman who died from rupture of the right Fallopian tube. The patient was admitted into the Bristol General Hospital, suffering from endometritis, and for this Dr. Laurence applied nitric acid to the interior of the uterus after previously dilating the cervix with a tangle tent. The woman did well for four days, when she developed symptoms of peritonitis, and died in three days. The post-mortem disclosed general peritonitis, most marked in the pelvic region. The left Fallopian tube was dilated into a cyst, the right tube was very much dilated and thickened, and had given way, the contents escaping set up peritonitis, the interior of the uterus presenting the usual appearances of granular endometritis Laurence did not attribute the fatal termination to the application of the acid. The immediate cause of the rupture of the tube was probably its over-distension by menstrual secretion, the portion which had become very thin giving way under the pressure. The act of menstruation was coincident with the development of peritonitis. The opinion of the Society was asked whether the application of nitric acid had anything to do with the fatal result.

Dr. Barnes said that a fortnight ago a young woman died in St. George's Hospital before he had himself seen her, and a similar condition was found. Such a rupture sometimes took place accidentally, and he did not think that it was due to the treatment.

Dr. Braxton Hicks thought that although the nitric acid might not have had anything to do with the accident, yet the manipulation and use of tents might have had some influence. Much care was requisite, if there were a swelling near the uterus, in which inflammation might be lighted up.

Dr. PLAYFAIR had often used nitric acid without any bad effect, but he thought it safer to do so without the preliminary use of tents. The latter was much more likely to have had the injurious

effect.

Dr. Edis had applied nitric acid in hundreds of cases, and had never lost a patient, or had any complication.

The President said that the mischief was evidently of considerable standing, and he did not think that the application of nitric acid had

anything to do with the result.

Dr. AVELING exhibited a regulator to be used with Paquelin's cautery. It was a simple and inexpensive screw tap made by Messrs. Meyer and Meltzer, which could be added by any one having a thermo-cautery, simply by cutting the tube an inch from the handle and inserting the extremities of the regulator into the cut ends. By turning a screw any heat may be produced and maintained.

Dr. John Brunton exhibited a child suffering from double cephalhæmatoma. It was the first instance of the kind he had seen, though he had notes of severe single ones. His attention was not called to the condition till some days after birth. It was a fourteenth

child.

Dr. Aveling asked whether encephalocele would not be a better

name for the swellings.

The PRESIDENT said that he thought Dr. Brunton was right. The swellings did not pulsate, there was a bony ridge round them, and their situation was that of cephalhæmatoma rather than en-

cephalocele.

Dr. Hayes showed the uterus and appendages of a woman, aged forty-one, who had died in King's College Hospital. One of the ovaries was converted into a large unilocular cystic tumour evidently of a malignant nature. The uterus was uniformly enlarged and closely adherent behind to a dense carcinomatous mass reaching downwards into the pelvis and upwards into the abdomen. Ovariotomy had been recommended at another hospital, but Dr. Hayes decided against it because the fixity of the uterus led him to believe that this organ was diseased, probably secondarily so, the ovarian tumour being malignant.

A paper by Dr. GALABIN on two cases of "Rupture of the Vagina"

during labour was then read.

The first case was that of a patient under the care of Mr. Sharman, of Gipsy Hill. She was a publican's wife, enormously fat, and weighed seventeen stone. She had previously had eight living children. All were delivered naturally except the last, which was extracted by

forceps, the pains having begun to get feeble.

Mr. Sharman was sent for at 7 A.M. on May 29th, 1878, on the commencement of decided labour pains. The waters were said to have broken the preceding evening. The os was then fairly dilated, but the head did not descend into the pelvis for another two hours, although there appeared to be abundant space. The patient then got out of bed and strained violently upon a night-stool. Immediately after, the head was found to have descended to the perineum, and was quickly expelled through the vulva. Uterine action then ceased, and the fœtus was extracted alive. After twenty minutes,

as expulsion of the placenta could not be otherwise procured, gentle traction was made upon the funis, but it broke and came away, leaving the placenta behind. On introduction of the hand, a substance was felt, which, being carefully brought into view at the vulva, proved to be the large intestine, recognised by its longitudinal bands. The placenta could not be found, though the arm was introduced up to the elbow.

The author saw the patient about eight hours after the rupture, and found that the posterior vaginal wall had been torn away from the cervix for more than half of its circumference. The os uteri was closed, and placenta not to be discovered. It was thought that it would give the only possible chance to the patient to perform gastrotomy, sponge out the blood from the peritoneal cavity, and search for the placenta. A jet of dark blood spurted out at the first puncture of the peritoneum, and more than two pints were found collected in front of the uterus. The placenta was also lying in front of the uterus, and upon the top of the bladder. Symptoms of peritonitis came on the next day, and death took place forty-two hours after delivery. It would seem that the placenta must have been expelled by the uterus while the vagina was occupied by the fœtus, and so passed upward through the rent into the peritoneal cavity.

The second case was that of a patient forty-one years old, who had had ten children delivered naturally. She was attended in the Guy's Charity. The author was called to see what was said to be a case of placenta prævia, in which considerable hæmorrhage had taken place. He found that no presentation was within reach, and that the finger penetrated a long way without resistance. Chloroform being given it was ascertained that there was an extensive rent in the posterior vaginal wall, separating it from the cervix. The fœtus and placenta had passed into the abdomen, the head of the fœtus uppermost. It was afterwards ascertained that another extern attendant had seen the patient about four hours before the rupture, and had then found the os not dilated, and the pains very slight, the vertex presenting normally.

The posterior lip of the cervix, which was bilaterally cleft, and the peritoneal surface of the uterus, had been mistaken for the

placenta presenting.

As the patient and her friends, who were Irish, refused to allow gastrotomy, the foot of the fœtus was brought down through the vagina, but the occiput had to be perforated before the head could be brought through the brim, and the patient died shortly after

delivery.

In both cases the accident appeared to be due not to any degeneration of uterine tissue, or any considerable disproportion between pelvis and fœtal head, or protraction of labour, but to a violent pain having occurred while the uterus was in a position of extreme anteversion, so that the feetal head was driven against the posterior wall of the genital passage.

Dr. Braxton Hicks related a case in which lateral rupture of the vagina had occurred. He thought the obliquity of the uterus might have been occasioned by the position in which we place our patients in this country.

Dr. Barnes considered the cases important, as showing that spontaneous rupture of the vagina may occur during labour. Had the forceps been employed in either of these cases the practitioner would probably have been blamed for the result, and the laceration have been attributed to his manipulation. In fat women the tissues give way under slighter forces. Cases of ruptured vagina occur suddenly in morbid tissues and before there is any indication on which to act.

Dr. CLEVELAND referred to a practical point in the first case, and suggested that it might prove a useful warning under all circumstances to employ the utmost gentleness in attempting to bring down the placenta by traction on the funis. Although there was no evidence that undue force had been used, yet the fact remained that had the cord not been unfortunately broken the placenta might have been cautiously traced to its resting-place and removed without the operation.

Dr. Matthews Duncan related the particulars of two cases of ruptured vagina, and remarked that when the great majority of such ruptures takes place, the cervix and vagina form one tube whose parts are distinguished chiefly by the rim of external os projecting. The vagina might rupture or the cervix might rupture; but the body did not. Vaginal ruptures are not rare, forming about a third of the

whole.

One of the cases he had mentioned was one of twins. Rupture took place during or after the birth of the first, and the bowels protruded before the second was born. But the second child was born

spontaneously also.

Dr. Gervis mentioned two cases of ruptured vagina, in one of which the child and placenta had both escaped into the peritoneal cavity, and remained there undetected for forty-eight hours, putrefactive changes having begun; and in the other, the rupture occurred in a labour in which the forceps had been used, and the collapse was attributed, prior to the detection of the vaginal rupture, to the continued influence of the anæsthetic.

Dr. ROPER remarked on the common features of these two cases. Each woman had had a large number of children, and the abdominal walls had become weakened, constituting the "pendulous belly" of pregnancy. He had seen such cases when the laxity of the abdominal muscles allowed the pregnant uterus to fall so far forward that its fundus pointed downwards. Under such circumstances, the labours are exceedingly long and painful, and likely to lead to rupture of the vagina at that particular part described by Dr. Galabin. The immediate restoration of the uterus to its proper position so that its long axis and that of the child may correspond to the axis of the brim is

the first important step in treatment, and then timely aid with forceps is needed.

Dr. PLAYFAIR pointed out how very strongly these cases seemed to him to show the correctness of the practice he had long advocated, that after the rupture of the uterus, when any considerable part of the child or the placenta had escaped into the peritoneal cavity, gastrotomy afforded the patient the best chance of recovery. This rule was not, however, generally taught in our obstetric works.

A paper was read by Dr. George Roper entitled—"Some Clinical Remarks on a Certain Class of Cases, of Anteflexion of the Uterus with Certain correlated Conditions." The object of the paper was to describe and differentiate a special class of anteflexion of the uterus. In these cases the abnormal shape of uterus was a congenital malformation and was not either an effect or a cause of pathological change in its texture. axis of the organ was a curve, with the concavity forwards; it was not bent at an angle at any one point. There was no softening of the tissues, but on the contrary, rather rigidity, for the organ could not be easily straightened. This condition was often associated with deformity of the cervix and stenosis of the external os and canal. To distinguish this malformation from other kinds of anteflexion, the author proposed to call it antecurvature of the uterus. He believed that this antecurvature was much commoner than any other kind of anteflexion, and that in the unmarried, especially, it caused no symptoms beyond those of dysmenorrhæa. He had noticed other kinds of developmental peculiarities, one or more of which generally co-existed with this malformation. These were (1) a short conical vagina, (2) a narrow perineum, (3) a conical distribution of the pubic hair, long hairs on the mammary areola, and an unusual amount of hair on the legs and forearms. The deformity of the uterus often gave rise to dysmenorrhea from the canal being curved and narrow. The treatment of this was then considered. The author thought incision of the vaginal portion advisable when the cervix was much hooked. Incision of the cervix up to and through the internal os; sudden dilatation of the cervix by expanding sounds; the use of tents; intra-uterine stems; or vaginal anteflexion pessaries, he considered either inefficient or unsafe, and therefore objectionable. He had obtained excellent results from gradual dilatation of the cervical canal with metallic bougies; he believed this treatment to be quite free from risk, and therefore preferred it. There was also in these cases a condition of sexual nullity; sexual desire was absent; in many cases sexual intercourse was painful, and there was often vaginismus. He thought that the co-existence of these conditions was not accidental, but that they were part of a general developmental defect. The pelvis, too, he thought, partook somewhat of the male type. The paper concluded with a description of two specimens of this antecurvature of the uterus which were exhibited to the Society.

Dr. Gervis considered the term "antecurvature" an unnecessary addition to the nomenclature already in use. He differed somewhat from Dr. Roper's conclusions regarding division of the cervix in some intractable cases of anteflexion, especially where associated with conical cervix and pin-hole os. He had found it of much service, and since adopting the plan of applying the solution of perchloride of iron to the cut surfaces, he had rarely, if ever, had any subsequent inflammation. The iron checked hæmorrhage, prevented any primary union, and greatly lessened, at all events, the risk of septic infection.

Dr. Graily Hewitt thought that Dr. Roper was attempting to draw too hard and fast a line between congenital and acquired anteflexions. He had failed to discover this difference. He attached no importance to the passage of the uterine sound being more difficult in one case than in another. The condition of the tissues of the uterus had much to do with the flexion, being of great softness, not only at the point of flexion, but throughout. With reference to treatment, he had failed to discover the curative power of bilateral incision. He preferred tents and dilators, and the contemporary use of

pressure outside by means of vaginal pessaries.

Dr. Braxton Hicks called attention to a peculiar type of flexions of a temporary character, which might be called amæboid, in which one doctor recognises an ante-flexion, and another a retro-flexion, produced probably by contractility of tissue, perhaps the result of

irritation in the ovary.

Dr. Barnes believed that pigmentation had not been sufficiently studied, for its bearings in diseases of women are of great importance. He considered a small os uteri frequently a complication of flexion, and in such cases lateral incision was of service, and would not interfere with the treatment of the flexion subsequently by straightening the uterus.

Dr. AVELING denied that division of the cervix was repudiated by all sagacious observers. He had practised it and found it of

great service.

On the motion of Dr. Bantock, seconded by Dr. Wynn Williams, the debate on Dr. Roper's paper was adjourned till the next meeting of the Society.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, April 10th, 1878. Dr. Wilson, President, in the Chair.

Alexander Baird, M.B., C.M., Perth, was admitted an Ordinary Fellow.

Professor SIMPSON showed a poly-cotyledonary placenta, in which the vessels exhibited a remarkable tortuosity and tendency to run

over one another. This condition of twisting was no doubt produced under similar conditions in the placenta as in other parts, such as the uterus and ovaries, and of which we had the most familiar and most striking illustration in the normal torsion of the umbilical cord, which was wrongly considered by many to be due to purely mechanical causes.

Complete Torsion of the Cervix Uteri (with considerable Thickening and Dilatation of the Os) of a Cow.

By Professor Walley, Royal (Dick's) Veterinary College.

Subject.—Small Danish cow, which had been landed from Copenhagen on the 7th, and purchased in Edinburgh by a Leith dairyman on the 8th of March. She travelled to Leith, and shortly after her arrival lay down, never after rising.

My attention was directed to her on the 13th of March. I was informed that since purchase she had eaten very sparingly—had, in

fact, been supported mainly on gruel.

On external manipulation I discovered that the uterus contained a very large feetus, and suspecting that this had something to do with the paralysis, I made a vaginal exploration, which resulted in the detection of torsion of the cervix uteri. I was only able to pass two fingers, and that in a half spiral manner, from left to right. Rectal exploration confirmed the diagnosis, and also revealed the further fact that great thickening of the cervix had taken place. As my patient was in a very exhausted condition, and as I had not sufficient assistance, I determined to delay operative interference for several hours, supporting her in the meantime with stimulants and gruel.

Deciding upon attempting reduction of the twist by version, or, failing this, by making an incision through the abdominal walls and introducing my hand into the abdomen, I proceeded, in the evening,

with the aid of several students, to carry out my intention.

The animal was turned twice completely over, from left to right (in the same direction as the twist), with the effect of nearly reducing it; but, on proceeding to turn a third time, I discovered she was dying, death taking place in a few minutes afterwards. After death I had the body turned once more, when I found that the torsion was completely reduced, but that the os and cervix were thoroughly occluded

by new material deposited in their structures.

Autopsy.—Unfortunately, I could not be present when the carcass was dressed, consequently I only saw the uterus and its contents after removal from the body, and was thus prevented from making any investigation as to the condition of the ligaments. The uterus contained a large, fully developed fœtus, with placenta and uterine fluids; its coats were extensively thickened throughout, its bloodvessels engorged with coagulated blood, and its lymphatics with lymph: the seat of the torsion was indelibly marked by the blanched, compressed, and twisted condition of the structures of the involved parts. The cervix, anteriorly to the torsion, was thickened to the

extent of several inches all round, the vaginal coats normal, and its large vessels empty; the large vessels of the uterus (arteries and veins) contained immense, firm thrombi.

There had been no interference with the rectum, such as is usually seen in these cases, from involvement of the recto-uterine folds.

The cause of the lesion or the length of time which it had been in existence I had no means of determining; but from the thickened and indurated condition of the cervix uteri I am of opinion that it must have been in existence for several weeks. Had the animal been strong, and the os and cervix uteri normal, I entertain no doubts as to the success of operative interference.

Professor Walley also exhibited a preparation of an interrupted

and diffuse aneurism of the spermatic artery of a bull.

Mr. Donovan, of Whitwick, communicated the following note of a case of super-feetation:—In January last I was sent for to attend Mrs. S., a multipara, who stated she was six months pregnant, and had miscarried at about that period on several occasions. On making an examination, I found a bag of water protruding, which, on being ruptured, was found to contain a fœtus at about the third month. After waiting for some time, and no change taking place, I passed my hand up along the cord, and found the placenta adherent and attached fast within the os. Having removed it, and finding the uterus as large as ever and making no attempt at contraction, I introduced my hand, and found that the greater part of the uterine cavity was shut off from zonal portion by a strong membrane attached to the uterine wall all round, a short distance above the zone. Placing my left hand on the abdomen, a second feetus could be felt occupying the upper and larger portion of the uterus. I ruptured the membranes, got hold of the feet, and delivered a living female child at about the sixth month, which survived its birth about fifteen minutes. My reasons for classing this as a true case of super-feetation are—the position occupied by the first-born feetus being almost extra-uterine, lying as it did barely within the os, and having no connexion with any portion of the uterine cavity occupied by the other fœtus, being shut off by the intervening membrane. The different stages of development showed that a long period must have elapsed between the two conceptions.

Professor Simpson, Dr. Angus Macdonald, and others of the Fellows, thought that Mr. Donovan had not proved the case to be one of super-fectation, but that it was more likely one of blighted

twin pregnancy.

Knot on the Umbilical Cord formed during Pregnancy.

By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh.

On 21st March I attended a lady in her fifth confinement. When I was first called to her, I found the first stage just completed, and the head of the child passing through the os uteri, covered by a loose,

firm, unbroken bag of membranes, into a roomy pelvis. When the head had reached the pelvic floor, the bag of membranes being still entire, I could feel through them the right ear of the child, behind the arch of the pubes. The patient was under the influence of chloroform, and whilst I was trying to make out all the outline of the concha, I felt, close to the lob of the ear, the pulsation of the funis. There was an irregularity on it which I could not account for, and concluded that there was a curl of some of the vessels at that particular spot. Seeing that the cord was lying so low, I was fain to let the membranes protrude through the vulva, and to leave them unruptured till the occiput had turned toward the symphysis pubis. The head hung for a time within the perineum, and when at last it protruded, the cord was found coiled thrice round the neck of the child, and the irregular part that had been felt through the membranes proved to be a true knot, formed at the distance of nine inches from the umbilical extremity. The child must have made some attempt at inspiration within the canals, for it had a little difficulty, though it was clearly a strong healthy boy, in filling the thorax, and only began to cry lustily after it had been turned once or twice from side to side, according to the Marshall Hall ready method.

Chantreuil* gives as the four "conditions which favour the production of knots on the cord.

"1st. Length of cord.

"2nd. Abundance of liquor amnii." 3rd. Movements of the mother.

"4th. Exaggerated movements of the fœtus."

Of these, two were markedly present in this instance—the 1st and the 4th. For the cord measured 35 inches, instead of the 21½ inches which I have found as the average measurement in 700 cords. And the mother tells me that in none of her previous children—two boys and two girls—had she felt the movements so frequent and so strong as with this fifth child, the intra-uterine movements of which had sometimes caused her considerable distress. There was also a fair

amount of liquor amnii, but no notable excess.

Dr. Read,† who writes a very interesting essay on the formation of knots on the umbilical cord, illustrated by excellent woodcuts of the different varieties, argues that they are always formed at the time of delivery, and combats the opinion that they are ever tied during the intra-uterine life of the child. "The evidence upon which this opinion is based," he says, "may be divided into two kinds:—rst, that derived from the state or condition of the fœtus and the cord at the place of the knot; 2nd, the complexity of the knot itself, and the supposed difficulty of its being tied at the time of delivery, when the child passes through the organs of the mother." He is successful

^{* &}quot;Thèse des dispositions du cordon," Paris, 1875, p. 115. † American Journal of the Medical Sciences, 1861, xlii. 381.

enough in dealing with the second of these heads of evidence; but we still believe that his attack on the first is a failure, for, in the condition of the cord at least, we have a proof of the knotting of it long before labour. The case I have brought before you supplies a new kind of evidence in the same direction, seeing that the knot was felt through the yet unbroken membranes, and must have been formed previously to the onset of labour; and when we remember that the knot is near the fœtal extremity of the cord, we must even conclude that it was formed previously to the further coiling of the funis round the neck of the child.

Dr. Wilson, while thanking Professor Simpson for his communication, stated his belief that such knots were often produced long before labour began.

Dr. UNDERHILL mentioned a case of twins that had come under his observation, in which the placenta was adherent and the cords elaborately knotted together.

Fibroma Vaginæ.

By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh.

The vagina, having but a passive rôle to play in the economy, and being subject to changes rather of a mechanical than of an actively vital character, is remarkably free from the tendency to the development of the various neoplasms displayed so remarkably in the uterus. This remark holds good with regard to the fibrous as much as to other forms of new growth. Hence Kiwisch* is perfectly justified in asserting, notwithstanding the demurrer of Scanzoni,† followed by M'Clintock, that "the various fibrous tumours are of rare occurrence in the vagina, and most of them have originated in the uterus, and only spread subsequently in the vaginal wall." And so Davis§ says—"For one example of tumours of this class having its origin from any part of the vaginal surface there are at least ten which are indebted for their source either to the neck or to the interior of the body of the uterus." I have often seen an intra-uterine fibroid falling through the os and filling up the vaginal cavity, as described by Davis; and as often, intra-mural and sub-peritoneal fibroids pressing through the vaginal walls from behind and above, blocking up and destroying the canal, as described by Kiwisch. But I have only met with one of notable size which had its origin in the vaginal

The patient, a young servant of twenty-five, was sent to my ward by Dr. Stewart, of Newport, Fife. She suffered from trouble with the water, and had difficulty in going about her duties in consequence

of a swelling at the privates, which led her to suppose herself to be the subject of a falling down of the womb. On examination a mass the size of two fists was seen protruding from the vulva, and having much the appearance of an extensive cystocele. It caused the urethra to project far forwards and upwards, while the perineum was kept on the stretch behind, and the vaginal orifice so completely blocked up that the uterine discharges had escaped with difficulty. It had a soft elastic feel, which could be best likened to the consistence of a good-sized lipoma, and was rooted on the entire breadth of the anterior vaginal wall along the upper two-thirds of the urethra and part of the trigone of the bladder, to an extent in all of about five inches. A sound passed into the bladder showed that though the urethra was twisted and compressed, there was no pouching of the bladder into the base of the tumour.

The patient was most anxious to be relieved of the mass, which had existed for about two years, and had lately begun to increase in size and become more troublesome. The mucous membrane was divided by an elliptical incision, and dissected off the tumour, which was, as it were, encapsuled on the surface and at the sides with a layer of condensed cellular tissue. At its base, however, where it grew from the urethro- and vesico-vaginal septum, it was in intimate union with the tissues of the part, which were dissected out as close to the neighbouring cavities as was consistent with their integrity, a sound held in the bladder being used as a guide. Some arteries that spouted were secured by torsion. The edges of the wound were brought together by eight silver-wire stitches. Union by the first intention took place at the upper and lower extremities of the wound; but in the middle, towards the neck of the bladder, suppuration occurred, and healing by granulation. The patient soon made a good recovery. Dr. Stewart writes me that, since she left the Infirmary two years ago, she has been in fair general health, and attending to her usual avocations. She had recently been apprehensive that the tumour was growing again, but on examination Dr. Stewart did not find it much altered from the time of her recovery from the operation.

The tumour had much of the look as well as the feel of a fatty tumour; but on microscopic examination it is found to consist of desmoid or fibrous tissue, and the softness of the texture was caused by an ædematous infiltration of all the structure. In its histological character this tumour closely corresponds with those described by Höning* and Jacobs,† and, indeed, with the greater number of these fleshy tumours of the vaginal walls of which the intimate structure

has been described.

Klebs; alleges that these solid tumours of the vagina are fibromyomatous, apparently misled by theorising from the structures

^{* &}quot;Berliner Klinische Wochenschrift," vol. vi. s. 55. † Ibidem, s. 258. ‡ "Handbuch der Pathologischen Anatomie," s. 960.

whence they spring. Virchow* more correctly describes them as being most frequently of fibrous texture with a remarkable degree of

Rokitansky† describes the vaginal fibromata as being developed especially on the posterior surface of the canal. This, however, is a mistake. Of twenty-seven cases, twhere the situation of the tumour is given, seventeen were on the anterior wall, eight only on the posterior wall, and two towards the right side. In the case I have described the tumour was attached with a broad basis, as was the case with nineteen others of the twenty-seven. The remaining eight were polypoid, with a larger or narrower peduncle.

After a few remarks from Dr. Underhill, public business was con-

cluded.

Meeting, Wednesday, May 8th, 1878. Dr. CHARLES BELL in the Chair.

Dr. Cappie exhibited "a cord" most elaborately knotted. There were two knots on the cord, both of which were of some complexity, and one of them was double. In his remarks on the case, Dr. Cappie mentioned that the child was quite strong and healthy, but that the mother had noticed and been alarmed by the fact that she had felt much less stirrage than in her previous pregnancies. He thought that the knots were formed at an early period of uterogestation.

Professor Simpson showed the "pelvis and contents" of a patient, aged thirty-six, who had been sent to his ward under the impression that it was a case of inverted uterus. When admitted she was very vellow and anæmic, and greatly reduced, pulse quick, temperature

^{* &}quot;Die Krankhaften Geschwülste," Band iii. s. 220.

^{+ &}quot;Pathological Anatomy" (Sydenham Society's translation), ii. 270. # Collected from authorities already referred to, and from-

^{1.} PELLETAN.—Clinique Chirurgicale, tome i. p. 225. 1810.
2. BAUDIER.—Bulletin de la Faculté de Médecine de Paris. 1820.
3. CURLING.—London Pathological Transactions, vol. i. p. 301. 1848.
4. SIR JAMES PAGET.—Medical Times and Gazette, 1861, vol. ii. p. 161.
5. LEBERT.—Anatomie Pathologique, Atlas II. Pl. 515.

^{6.} CADGE.—Lancet, vol. ii. p. 631.7. W. T. GREENE.—British Medical, 1870, vol. i. p. 489.

^{8.} BARNES.—London Obstetrical Transactions, vol. x. p. 141.

^{9.} BYRNE. - Dublin Quarterly Journal, vol. li. p. 504.

^{10.} Meadows.—London Obstetrical Transactions, vol. xiv. p. 309.
11. West.—"Diseases of Women," p. 643.
12. Beigel.—Krankheiten des Weiblechen Geschlechtes, Band ii. s. 589.

^{13.} HILDEBRANDT. - Die Neue Gynäkologische Universitäts-Klinik und Hebammen Lehr-anstalt, 1876, s. 99.

^{14.} WIGGLESWORTH. - Archives of Dermatology (quoted in Schmidt's Jahrbuch, vol. clxxii., p. 247.)

^{15.} DEMARQUAY.—Parmentier bulletin de la soc. anat., 1860, p. 245. 16. GREMLER.—Preussische Vereinszeitung, 1843, No. 33.

high. Local examination showed a rounded pyriform mass in the vagina, which did not allow exact diagnosis; the tumour looked pale and bled freely. Patient was too ill for further examination; the peritonitis rendered palpation impossible. She gradually got worse and died. On post-mortem examination, the uterus was in its natural position and of somewhat large size; the pyriform body in the vagina was a polypus attached to the cervix by a narrow pedicle. The cause of death was purulent peritonitis.

Dr. Macdonald showed an "ovum" of a three months' pregnancy to show the uncertainty and difficulty that is sometimes met with in deciding on the age of a feetus in the earlier months; the feetus in

this case was exceedingly small.

The Risks and Treatment of Intra-uterine Hydrocephalus as a Complication of Labour, with the History of a Case.

By Angus MacDonald, M.D.

Intra-uterine hydrocephalus occurring only once in 3000 cases, or thereby, is sufficiently rare to warrant the practitioner in recording cases as they arise in his experience. Besides this, the lesion, though unfrequent, is so beset with difficulties and risks that it is a duty to keep those occasionally before the profession, in the hope that, attention being riveted upon them, the accidents likely to arrise in connection with this complication of delivery may thereby be avoided.

Considerations such as these must, therefore, be accepted as my apology for reading this paper before the Society.

The following are the main facts of the case:—

I was called on the forenoon of Tuesday, the 2nd of December last, to assist my then dispensary pupil, Mr. Greathead, in the treatment of a Mrs. Hughes, the wife of an engine-driver, residing at 3, Cottage Lane, Stockbridge. She was then being confined of her third child. She stated that during her first confinement she had been attended by Dr. Cappie. Her labour on that occasion lasted from Thursday to the following Sunday, when it was terminated by forceps. The infant lived for five months. The second confinement was natural, the infant, a boy, being still alive, and aged fifteen months. The patient believes she suffered from prolapsus uteri in May, 1877. She had arrived at or near her full time when labour supervened.

During the whole previous day, the 1st December, the patient had pains at irregular intervals. In the evening, on lifting a tuly of water, the pains came on with considerable severity and regularity. Mr. Greathead was accordingly sent for, and, on his arrival, found the external os flaccid and dilated to about the size of a florin. The membranes were observed to be protruding a good deal, and they were accidentally ruptured during the first examination. The presenting part was high placed, so that it was impossible to make

out the presentation. Something that appeared to be hair was felt, but no bones could be detected. The feel of the presenting part was that of a doughy mass that pitted on pressure.

The feetal heart's sounds could be heard at the most common situation on the left side of the abdomen of the mother. But Mr. Greathead could not hear the uterine souffle, owing, as he thought, to the effects of the extremely persistent uterine contractions.

After waiting for some time, and the pains appearing to have rather gone off, the patient was left for the night. On visiting her at 9.30 A.M. on the 2nd, it was found that she had not been able to sleep, and that pains had been off and on all night. She was now greatly distressed, and complained of a very tight sensation round the lower part of the abdomen, feeling as if she should burst. On examination, per vaginam, the condition of matters was much as on the previous evening, only that the head was more closely pressed down upon the upper part of the pelvis.

I saw the patient about twelve noon. Felt the head presenting, soft, high up, and doughy, and at the same time satisfied myself that the pelvis was narrowed antero-posteriorly. The parts were very tender, and I did not examine with so much care as usual in consequence of this state of matters. I accordingly sent for forceps. When these arrived, and the patient had been put under the influence of chloroform, as is my wont, I again examined to make certain of the exact position of the head, and the relation it had to the pelvis, before introducing the instruments. I now discovered that the head presented the posterior parietal bone, and that the sagittal suture was situated transversely, running immediately behind the symphysis pubis. The posterior fontanelle was a wide triangular space, measuring, so far as I could judge, about 2 inches by 11, and turned The sagittal suture freely admitted one or two towards the right. fingers between the opposing bones, and, on tracing it toward the left side, I found it terminated in a wide quadrilateral space (anterior fontanelle) that was nearly the size of the palm of the hand. left side of the head could be felt, now that our attention was directed towards it, projecting fully two inches above the upper edge of the symphysis pubis. The anterior portion of the cervical segment of the uterus was markedly distended and thinned, so that one felt as he were touching the head through the abdominal walls. The lower edge of the body of the uterus was felt as a distinct transverse rim about two inches above the upper edge of the symphysis pubis—the body of the uterus being soft and thick when the pains were absent—hard and firm when the pains were present. These facts were all tested by Dr. Playfair and Mr. Greathead, who were along with me. It was extremely interesting to notice how distinctly the horizontal elevated line of separation between body and cervix was developed during each pain. The pains were manifestly strong, though they did not move the head.

I now came to the conclusion that I had got to deal with a large

hydrocephalic head, and the more thoroughly I explored the state of the presenting part, the more my opinion was confirmed. Dr. Playfair likewise examined the head, and agreed with me. I now applied forceps guardedly, but they slipped. I reapplied them with like result. I now sent for craniotomy instruments, and a trocar and canula.

On obtaining the latter, I punctured the child's head, and on the withdrawal of the trocar, a large quantity, apparently about two pints, of clear fluid escaped through the canula. The head thereupon collapsed, and began to enter the pelvis under the propelling influence

of the pains.

The patient, however, was so much exhausted that the labour made but little progress, and I had to finish it by applying forceps in a hooked sort of fashion over the collapsed head. On the first trial they slipped, but on the second they were able to pull the child's head through the pelvis. Though the head was completely collapsed, the child breathed for fully forty minutes. It was, except the head, a well-formed male child.

The placenta came away about ten minutes after the child. Shortly afterwards there was some post-partum hæmorrhage, which was at once checked by the injection of three grains of ergotin subcutaneously. The uterus quickly contracted powerfully, and remained so.

The diagonal conjugate of the pelvis was found to measure $4\frac{1}{4}$ inches. The hand could not be turned round in the brim. On careful measurement of the part of the hand that could be admitted into the brim, I came to the conclusion that the conjugate of the brim was not over $3\frac{1}{2}$ inches. The patient made a good recovery.

The first remark that I would make regarding this case is the difficulty of diagnosis. It will be noticed, that on my first examination I entirely failed to detect the then state of matters. But though, on a careful examination, that was easily enough effected, and more especially when chloroform was employed to assist me, it is not so very strange that the lesion was not observed on the first exploration. It is another illustration of the well-known problem, said to have been first suggested by Columbus, how to make an egg stand on end. It was easy enough to make the diagnosis when one knew all about the case, and suspected its presence.

But it is to be remembered that the patient was believed to have a contracted pelvis, that her first labour in consequence had been very severe, and that my attention was especially directed to ascertain whether there was such contraction, and what was its amount. Having satisfied myself that the pelvis was narrow, and that delivery could not be effected by the natural efforts, and at the same time that the contraction was not greater than forceps ought readily to overcome, I naturally sent for instruments. But before applying forceps it is of the utmost importance to determine with accuracy the exact position of the head. For though in the high operation

one must necessarily apply the blades of the long forceps in relation to the sides of the pelvis only, yet the traction and management of the instruments must be regulated so as to favour the natural mechanism of the individual positions as far as possible. But I am not singular in experiencing some difficulty in the diagnosis of this accident. The difficulty has been experienced and pointed out by nearly every writer on the subject. Thus, Sir James Y. Simpson,* after recommending the patient to be first chloroformed, states that "the unusual size and dimensions of the head might be thus ascertained; but one source of fallacy was to be guarded against, namely, that the sutures and fontanelles were not, as was usually described, always preternaturally open and enlarged in hydrocephalic cases; for the cranial bones were in some instances, where the internal effusion was very great, so largely and abnormally developed as to destroy this supposed pathognomonic sign, and to form an almost complete osseous covering for the enlarged head." Also, Playfair † affirms "that the diagnosis of intra-uterine hydrocephalus is by no means so easy as the description in obstetrical works would lead us to believe. It is true that the head is much larger and more rounded in its contour than the healthy feetal cranium, and also that the suture and fontanelles are more wide, and admit occasionally of fluctuation being perceived through them. Still it is to be remembered that the head is always arrested above the brim, when it is consequently high up and difficult to reach, and when these peculiarities are made out with much difficulty. As a matter of fact, the true nature of the case is comparatively rarely discovered before delivery. Thus Chaussin (Gazette Medical, 1864) found that in more than one-half of the cases he collected an erroneous diagnosis had been made." Leishman t recognises the difficulty of forming a correct diagnosis, especially in head-last cases of intra-uterine hydrocephalus, but is hardly so frank as Playfair in allowing the likelihood

Spiegelberg § expresses himself thus:—"The diagnosis is not difficult if the cranial bones are very movable, and the skull represents more a loose sack filled with fluid than a solid body. In that case one feels the scalp in or above the brim tight during the pains, slack during the intervals, and recognises through it (the scalp) the sharp radiating edges of the bones. The widely gaping sutures and fontanelles are generally the most certain and most easily recognisable signs. But this condition is not always present. Exquisite cases of hydrocephalus occur, in which the distended structure in the sutures are extensively ossified, and in this respect present no difference from the healthy skull, or in which the bones are not thin

^{* &}quot;Selected Obstetrical Works," p. 385.
† "The Science and Practice of Midwifery," p. 44.
‡ "A System of Midwifery." First Edition, pp. 642-3.
§ "Lehrbuch der Geburtshülfe," s. 525, Lohr., 1878.

her.

like paper, but strong and thick, so that the softness and fluctuation of the skull are wanting. And, conversely, one finds now and again skulls of ordinary size in which the ossification is so backward that the sutures appear wide and gaping as in hydrocephalus. In such doubtful cases the most reliable sign of the latter is the abnormal relation between the face and the brow, the breadth and prominence of the latter, with the gaping frontal suture, and the transition of it (the brow) into the small face at a projecting angle. If we are unable, on account of the high position (of the presenting part) to accurately explore the head by touch, or if the child presents the breech, we are driven back upon the evidence afforded by external palpation, and the existence of a very voluminous and yielding head, which it is not, of course, always possible to make out." But I need not multiply extracts all tending towards the same conclusion. Enough has already been given to prove that the difficulty of diagnosis is a real and serious one.

But, furthermore, the usual obstacles to the forming of a correct opinion were increased in the case before us by the presence of a deformed pelvis, which, whilst it kept the hydrocephalic head high up, at the same time offered in itself an apparently sufficient explanation of the high position, independently of there being anything amiss with the head itself. The condition of the sutures and fontanelles were such, however, as to leave little doubt as to the removed by the convincing evidence of combined external and internal palpation. This proved that the size of the head was very much greater than normal, and also from the extreme thinning of the cervical segment of the uterus, showed in how great danger the patient was placed, provided timely assistance was not rendered to

It ought never to be forgotten, however, that a hydrocephalic head is occasionally diagnosed to be present when there is only a loose state of the cranial bones of an ordinary sized head, in consequence of death of the fœtus and collapse of the cerebral contents. On at least two occasions I have been sent for to aid in delivery when this mistake had been made. On one occasion it was in consultation with a medical friend, who had worked himself into a state of real alarm, and had considered it necessary to attempt a forcible dilatation of the cervix in order to avoid the evil consequences of the imaginary hydrocephalus. On this occasion a curious phenomenon occurred, which I am not sure whether I ever observed before or since, but which I have seen lately noticed in a German periodical, on which I unfortunately cannot now lay my hands. What I refer to was a peculiar thrill audible on auscultating the abdomen, which exactly imitated the feetal heart as to time and intensity, but which was clearly occasioned by muscular vibration. On my suggesting to my friend that we had got to deal with the collapsed head of a dead child, he triumphantly asked me to auscultate the abdomen. The sequel, however, proved that I was correct, as the child was by-and-by born dead and putrid.

Less than ten days ago, one of the most experienced and intelligent of my dispensary pupils called me to assist him in what he thought to be a hydrocephalic head. But on our arrival we found that, in the interval, a dead and putrid, but not hydrocephalic, child of more than usual size had been born.

It is thus manifest that there is great risk in mistaking the collapsed head of a dead child for hydrocephalus, and thus to diagnose the presence of the latter where it is non-existent, as well as the other danger of failing to detect it when it is present. No correct and experienced observer, however, ought to confound the collapsed head of a dead feetus with a hydrocephalic head, provided only a little attention is paid to determine the size of the head.

According to the statistics of Scanzoni, once in every five of all cases of intra-uterine hydrocephalus the fœtus presents the breech. This also, as pointed out in the observations of Leishman and Spiegelberg already referred to, increases the difficulty of diagnosis, but improves the chances of safe delivery, as the head when it comes last presents the narrow end of a specially thick wedge at the inlet of the pelvis. It is thus more likely to get moulded into the shape of the passages and to pass through.

The history of obstetrics, however, proves that this is a rare result

even with head-last cases.

Let us now consider the effects of hydrocephalus of the fœtus upon the course of delivery. In certain head-first cases, if the enlargement is not too great, and the bones movable, the head may be moulded into the shape of the pelvis and thus be forced through in detail, in a manner similar to what takes place in a narrow pelvis after the head has been crushed to a pulp by repeated applications

of a powerful cephalotribe, such as Baudelocque's.

The great bulk of the cases, however, need to be assisted in some Thus, in ninety-four cases collected by Hohl and Boehr, and referred to by Spiegelberg,*—I unfortunately have not been able to get hold of the original works, -spontaneous delivery occurred in only twenty-one cases. In eight cases treated by F. Weber, † St. Petersburg, delivery was spontaneous in four. In two cases, by Massmann, lately reported, assistance was needed in both cases. In five cases recorded by Dr. Lee, ‡ artificial delivery had to be performed in all. Thus, in 109 cases taken at random from medical records, only twenty-five, or less than one-fourth of all the cases, were terminated by the natural powers.

If, however, the necessity of operative interference, even at the expense of the life of the child, were all that happened, we should be

^{* &}quot;Lehrbuch der Geburtshülfe," s. 527. + "Centralblatt für Gynäkologie," s. 212. 1878.
"Clinical Midwifery." Second Edition, p. 56. London, 1848.

very glad, inasmuch as very few of these children are worth rearing. Even when born alive they are usually found to succumb to the disease in a very short time. But the complication brings with it varied and serious risks to the mother.

Foremost among these is uterine rupture. Thus, in seventy-four cases collected by Dr. Thomas Keith in his Graduation Thesis, this fearful accident occurred sixteen times. It occurred twice in the five cases recorded by Dr. Lee. Both the cases reported by Massmann ended in rupture. Spiegelberg states that, in the ninety-four cases to which he refers, there were twenty-four maternal deaths. He does not, however, state what was the special cause of death in the cases.

Though rupture seems the most common cause of death, yet others, such as exhaustion and metritis, contribute their *quota* to this mournful list of casualties. Thus, in the remaining three cases recorded by Dr. Robert Lee, metritis proved fatal in two, and metrophlebitis in the third.

If now rupture of the uterus is, out of sight, the most frequent serious accident that is apt to arise from intra-uterine hydrocephalus, it becomes of importance to understand clearly how it is developed.

Our ideas have been very greatly cleared up on this subject by the recent researches of Braune,* Bandl,† and Litzmann,‡ upon the behaviour of the cervix during parturition. Of these authors, however, by far the foremost place is due to Bandl, who has amplified, elaborated, and systematised our knowledge of the causation of uterine rupture much more than any other single author.

It may not be out of place here to quote, before referring to Bandl's view, the description of the mechanism of rupture in connexion with intra-uterine hydrocephalus, as given by Sir James Y. Simpson, showing as it does by contrast how much our views have become steadied since the period at which he wrote. I may at the same time be allowed to remark on the beauty and force with which the view, though inaccurate in several important particulars, is expressed

by Sir James. It is as follows:—

"In fact the diseased head of the infant, distended by the effused fluid, acted under impressions conveyed to it by the body and spine of the infant during labour like a hydraulic bag or machine pressing equally and in all directions on the cervix uteri, or parts with which it was in contact, with a force under which these compressed structures were almost certain to rend, provided the pressure was of any great duration; because the force itself contained the sum and concentration of the whole power of the uterine contractions bearing on each point with which the bag of the head was in contact. Under

§ "Selected Obstetrical Works." Edited by Dr. J. W. Black, p. 385.

^{* &}quot;Homolographic Sections." Leipsig, 1872.
† "Ueber Rupture der Gebärmutter und ihre Mechanik." Wien, 1875.
‡ "Das Verhalten des Cervix Uteri unter der Geburt." Archiv für Gynäkologie, Bd. x. s. 410.

such compression any weak or fissured part was almost certain to yield. And if any hydrocephalic head or fluid bag of this kind passed into the vagina and remained there, the kind of universal compression of the vaginal walls to which it gave rise was apt, if it did not lead to direct rending and laceration, to produce, if long continued,

a sloughing inflammation in these parts."

This explanation seems to me to rest upon an entirely incorrect The underlying idea seems to be—I say seems, because the statement of the condition of the mechanism is very indefinite, though elegant—that the whole expulsive powers of the uterus are transmitted through the child's spine on to the hydraulic bag which its head forms. As the section of the child's spine is, where it joins the head, relative to the large head very small, and as the whole uterine forces are assumed to be concentrated on this small area, it follows that the amount of pressure that would be communicated by the spine to the part of the bag against which it is pushed, would be very great. But according to the law of hydrostatics, known as the "qua-qua versus principle," it would follow that the whole surface of the child's head must necessarily be subjected to a tension equal to the tension of that section, since the entire surface of the fluid contained in the head must be of equal tension. Accordingly, the cervix and lower segment of the uterus, in so far as they were brought in contact with the hydrocephalic head, would be subjected to a pressure, the amount of which would be equal to as many times the sum of the uterine expulsive powers as the area of the hydrocephalic bag in contact with the uterus contained the area of the child's spine. This state of matters, if true, would certainly give very great rending and distending force; but even these would not warrant the statement, that the force itself contained the sum and concentration of the whole power of the uterine contractions bearing upon each point with which the bag of the head was in contact. For there is a great difference, even assuming all the conditions we have pointed out to be true, between the area of the child's spine and a point. But there is no good reason to assume that any such condition of circumstances exist in the case of hydrocephalus.

It is now generally allowed that the uterus contracts in such a manner as to establish—rst, A uniformly equal tension over its interior, and which is the only kind of tension that is operative so long as the cervix is not completely dilated and the waters are unruptured; and 2nd, A force that acts upon the poles of the ovum, and that arises from the resistance offered by the contracted fundus uteri to the straightening out of the fœtus, which, again, is occasioned by the change of shape and diminished capacity of cavity impressed upon the uterus by the contraction of the rest of its walls. This force thus occasioned acts upon the fœtus in the direction of the long axis of its body, and if the lower part of that body is unresisted, this part of the fœtus is necessarily propelled forwards. If, again, the lower pole is prevented by resistance in the direction of cervix

from advancing, the effect of this axial pressure is to exert strain upon the resisting parts proportional to itself. The uniform uterine contractions likewise propel the presenting front of the fœtus through the genital passage, but they act so as to advance the ovum as a whole, and the presenting part of the fœtus as a part of that whole, whereas the axial pressure tends to propel the presenting part in advance of the rest of the ovum, as it were. Lahs of Marburg denies that there is ever such axial pressure as distinct from the general internal pressure. Numerous facts, however, seem to render it nearly certain that it does exist. Thus, we frequently observe the head of the child pressed tightly against the inlet during a pain, whilst the breech is at the same time squeezed hard against the fundus, although the latter does not coincidently descend, which it would do if the pressure were solely due to general and equable contraction of the uterus. It has also been shown incontestibly by Braune, Ahfeld, Sutugin, &c., that the feetal oval is distinctly elongated during a pain —even to the amount of about two and a half inches. It does appear to me impossible that this elongation could take place without inducing a certain amount of active tension upon the poles of the The former power of the uterus is called by Schatz Der algemeine inner Uterusdruck, the general internal uterine pressure. The latter is called Die Formrestitutionskraft des Uterus, i.e., the form restorative power of the uterus, because he regards it as the consequence of the force with which the uterus strives to assume the globular form, but is prevented from so doing by the stretching-out of the fœtus. The same force is also termed by German authors Der Fruchtaxendruck, or fœtal axis pressure, because it acts in the direction of the fœtal axis.

But all authorities agree that the former of these processes is by far the most important, and that under certain conditions it alone may complete delivery, and that it is present in every stage of labour.

The latter force, again, is always subordinate to the former in amount, and very seldom comes into play during the first stage of labour, or at least never before the membranes are ruptured. It is chiefly operative during the second stage of labour. It is also agreed that this force that acts through the two poles along the axis of the fœtus is less in proportion to the degree with which the uterus can maintain the globular form.

Now, in every case of hydrocephalus the greatest danger arises during the first stage, before the outer os is completely dilated, when the general internal pressure is active, but before the fœtal axis

pressure could come into play in an appreciable amount.

Furthermore, the great size of the fœtal head and the usually imperfectly developed body of the fœtus cannot but serve to retain in such cases an unusually globular form in the fœtal oval, so that the usual elongation of the child's body could only occur imperfectly or not at all.

From what we have here said, it appears to me proved that the doctrine of intensified expulsive action directed by the spine of the child upon the hydraulic bag formed by its head can only apply to an exceedingly small amount of the uterine force, viz., that fraction of its amount which can be regarded as the feetal axis pressure. But it must be remembered that if the rupture arises before the entire os uteri is fully developed, that fraction must be very small, as the force is then little, if at all, existent.

It seems, therefore, certain that we cannot regard the foetal axis pressure as an efficient cause in rupture when it arises in the course of a labour complicated with hydrocephalus, as we have reason to believe the rupture usually takes place before that force is brought

into efficient operation.

But at least one other objection of an entirely different kind can be urged against this theory. It is this, viz., that when the head is strongly ossified, rupture is quite as likely to occur, if not more so than when the ossification is the most incomplete; but in the former case the notion that the head can act as a hydraulic bag is clearly a mistake.

I have selected for discussion the explanation of rupture in connexion with hydrocephalus lesion by Sir James Y. Simpson, simply because it is the only attempt at an explanation of the accident that I could lay my hands upon in the literature of the

subject previous to the able contribution of Bandl.

It is clear, however, that Sir James's explanation will not account for the frequency of the complication. If not, how is its occurrence to be explained? We must dismiss from our minds all idea of a great axially-produced tension, and regard the large head and small body of the child as forming a large plastic mass more or less rounded in shape, about which the uterus contracts itself powerfully in its efforts to dilate the cervix and outer os sufficiently to admit the head to pass. But we know that during delivery the cervix uteri is distended, thinned, and thereby weakened, whilst the body of the uterus is contracted, thickened, and thereby strengthened. The true explanation of the accident, therefore, is to be sought in a correct appreciation of the different modes in which these two great segments of the uterus behave during delivery. In a paper contributed last summer to this Society, I drew attention to the different rôle played by the head and cervix uteri during labour, and endeavoured to explain the mechanism by which the cervix could be distended, and yet the integrity of its tissue under ordinary circumstances maintained.

But under extraordinary circumstances, as when a hydrocephalic head is presented at the brim, the distension of the cervix under the strain put upon it by the general internal pressure of the uterus is simply enormous, as is shown diagrammatically by the plate of Bandl's I laid before the Society. At the same time there is a complete absence of the distending force in the transverse direction at

the outer os, which is effected by the presenting portion of the fœtus when it is of ordinary dimensions, so that the outer os dilates at a very great mechanical disadvantage, and therefore very slowly. In consequence of this the outer os may be found to be small, and the practitioner may believe there is no hurry, because the os is still undilated, whilst the upper part of the cervix may be meanwhile as thin as paper, enormously distended, and on the point of rupture.

This state of matters may go on long, but it is extremely apt to lead to rupture. It is the mere bulk of the presenting part, however, leading to over-distension of the cervix, and not any hydraulic machine character that it possesses which induces rupture. Indeed, it is a well-known fact that it is exactly in such cases as, if the wedge theory had any meaning, would produce rupture that we are most apt to meet with natural delivery. I mean those cases in which the head is so soft as to become moulded into the shape of the

passages, and to pass the cavity in detail.

The rupture in cases of this kind is stated to be chiefly longitudinal, as one would expect from the enormous transverse dilatation of the cervix which arises. But it also is sometimes circular. I have said that the tear almost always—if not always—affects the cervical segment of the uterus. That statement I made advisedly, because, as I have elsewhere affirmed, I believe that spontaneous rupture of the healthy body and fundus is an impossibility. Whenever, therefore, as in one of Dr. Lee's cases, the body is found torn in a case of this accident, there is, I think, reason to assume that some unhealthy predisposing cause has been pre-existent in the uterus.

But leaving the mechanism of rupture, let me make a few observa-

tions, in concluding, as to treatment.

I assume that the medical man in charge has made out a correct diagnosis of the case, and has satisfied himself that the natural powers are unable, without at least unduly risking the mother's life, to complete delivery. What is then to be done? In some cases Nature is found to solve the problem, and take the lead in treatment by herself, bursting the fluid bag within the cranium, and forcing it, or a portion of it, along the spinal canal, or under the skin of the fœtus, so as sufficiently to lessen the size of the head and effect delivery. This cannot but suggest puncturing the head as a means of delivery. But is this always needed? Is there no other alternative? There is no doubt but early interference on the part of the obstetrician, so as to effect delivery with safety to the mother, is of the highest importance, inasmuch as so few children with hydrocephalus are born alive, or can live. Thus, of sixty cases referred to by F. Weber, forty-one died during labour, and only six lived for a year. Still it is our duty, so far as possible consistently with the complete safety of the mother, to try to save the child also. Therefore, if it is a slight case, one ought to carefully watch the course of

delivery, noticing especially the degree of upward advance of the upper edge of the cervix, and if the resulting tension of the latter is not too great, the case ought to be left to Nature for a time. But if it is seen that Nature is insufficient, or if the upward advance of the superior edge of the distended cervix is indicative of a dangerous amount of cervical distension, the pains being at the same time severe, then we must interfere in order to hasten delivery.

As to whether forceps should be employed in the first instance, opinions are divided. The French authorities seem favourable to them, the Germans against them, whilst the English authors say little on the subject. The risks arising from forceps are chiefly slipping, as they cannot firmly grasp the soft elastic head, and the aggravation they are apt to produce of this already highly established tendency to rupture. On the whole, however, it appears to me that there can be little harm from a careful application of the instrument before proceeding to the extreme measure of puncturing the head.

If the head is very high up, turning might be tried, as the aftercoming head presents at the inlet under specially advantageous circumstances, whilst puncturing is easily effected through the foramen magnum or otherwise. F. Weber practised in two of his cases the application of forceps during the pains without tension, and merely with the view of elongating and moulding the head into the passage. Both were unsuccessful, and the proceeding seems an exceedingly doubtful one. But there is no doubt that most of these cases require and are best treated by puncturing. A small-sized trocar and canula is quite sufficient, and is recommended by Schroeder in case it may be possible to rear the child—a very improbable contingency. Then, if there is no abnormal pelvic resistance and a fair amount of uterine contraction, the natural expulsive powers may suffice to expel the head. If not, various means may be adopted to assist. The forceps may be sufficient, even by its imperfect traction power, as in the present case. The cranioclast or a light cephalotribe may be fixed in it, and the means of traction thereby effected. Or, if it is considered important to avoid injuring the child in any way, we may follow the advice of Schroeder, and after lessening the size of head by puncturing, turn and deliver by the

In those cases in which the head is both large and well ossified, the appropriate treatment is to perforate and reduce the size of the skull, as in an ordinary case of craniotomy for deformed pelvis.

When the breech comes first, endeavours ought to be made to pull the head through without the application of undue force; and if that is impracticable, then puncturing the head, either through a suture or by the foramen magnum, or by cutting down the spinal canal between two spinous processes, and if necessary, as Spiegelberg advises, passing a tube along the canal to the foramen, and thus drawing away the fluid.

Professor Simpson thanked Dr. Macdonald for his paper, which was really a treatise on cases complicated by hydrocephalus of the fœtus. As regards the diagnosis, however, Dr. Macdonald had perhaps not made mention of the combined internal and external examination, which was of great value. In respect to the dangers which attend these cases, Dr. Macdonald had given us a valuable disquisition on the mechanism with which the accident occurred. He did not go quite so far as Bandl in referring the site of laceration always to the cervix, because in a case he (Dr. S.) had published years ago, there was a tear in the body of the uterus as well as in the cervix. It was hardly worth while to consider Sir J. Simpson's remarks on this subject, because no one at that time had dreamed of the state of body and cervix uteri respectively, such as has now been shown by Bandl and others to occur. At the time, Sir James's views were by no means inconsistent with the new pathology. As regards treatment he thought puncture should be the regular treatment when the diagnosis was made. He looked upon the application of the forceps to such cases as involving much danger in consequence of the wide separation between the blades, which cannot be avoided. In head-last cases he had quite recently seen in Manchester a fœtus with an exceedingly large hydrocephalic head, where delivery had been effected after puncture through the palate, and the letting out of a very large quantity of fluid. This was, as far as he knew, a new method or plan of performing the operation.

Dr. Croom had once, early in practice, met with a case, and had failed to recognise its nature. The malformation was not to any extent, and was easily delivered by turning. The difficulty of diag-

nosis in the after-coming head was great.

Dr. Cappie had met with three or four cases of hydrocephalus. One he delivered by the forceps and did not diagnose the case. The

child was born alive and survived a few days.

Dr. Burn could sympathise with Dr. Macdonald in his meeting with difficulty in diagnosis, as the same had occurred to him on more than one occasion. When the diagnosis was made, the difficulty was mostly over, for puncture was a simple and easy proceeding. In one case the head had been left behind in the uterus: it was removed by blunt hook. The patient recovered. He had seen a like case occur in the hands of Sir James Sinpson. In some cases the neck gives way very easily.

Dr. RITCHIE had only once had hydrocephalus to deal with, and in this case, pelvis being very roomy, the child was born without much difficulty. In another labour in the same woman the head of the child was natural, but the peritoneum was distended with fluid, showing the constitutional nature of the affection of the serous

membranes.

Dr. Allan Jamieson asked Dr. Macdonald whether there was any after-pain after the injection of the ergotin, to which Dr. Macdonald replied that he did not remember.

Dr. C. Bell thought the paper an admirable and most valuable

one. There were one or two points, however, not quite clear. As regards rupture, though the uterus may be the leading cause of the accident, the pelvis may assist, particularly in cases where there is a prominent and a sharp linea ileo-pectinea, as was long ago pointed out by Professor Hamilton. The difficulty in diagnosis was well known, particularly where the patient was very fat. In a case which came under my care recently, I delivered with forceps, and on delivery I found the circumference of the fœtal head was seventeen inches. The woman was so fat that when the long forceps were applied to the fœtal head, the handles were completely concealed by the size of the nates and upper part of the thighs.

Dr. Macdonald replied. He thanked the Society for the way in which his paper was received. He had omitted to mention the continued internal and external method, though he had carefully practised it. He thanked Professor Simpson for bringing this to his notice. He had referred to Sir James Simpson's remarks because he was the only writer of, say thirty years ago, who made any attempt

to trace the mechanism of these cases.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, May 11th, 1878. Dr. DARBY, President, in the Chair.

Diagnosis of Dropsy of the Amnion.

By George H. Kidd, M.D., &c.

We are indebted to the essay on Dropsy of the Ovum in Dr. M'Clintock's very valuable book on "Diseases of Women" for almost all that we know, with any degree of accuracy or precision, as to dropsy of the amnion. He designates it dropsy of the ovum, as indicating that it depends on a diseased condition of the ovum or its involucra, and not on the condition of the mother; but the more common name, dropsy of the amnion, seems to me preferable, as specifying where the excessive quantity of fluid is found. The disease is not by any means a very rare one, but when the quantity of fluid present is not very great its recognition is not perhaps of much practical importance. As the presence of a certain quantity of liquor amnii is a condition of health, it is necessary, as Dr. M'Clintock observes, to define where excess begins. He thinks in strictly natural pregnancies the quantity of liquor amnii seldom exceeds six or eight ounces, and sometimes is not more than two or three. He does not however, include in his memoir any case of dropsy in which the quantity of fluid appeared to be under two quarts. Not unfrequently, however, the quantity greatly exceeds this. In one case under my own observation we collected eighteen pints twelve ounces—that is, more than two gallons, and I have seen

many cases in which the abdominal enlargement and the consequent

distress were very much greater than in this one.

When the abdomen attains a very large size from being distended with fluid, it becomes necessary to consider whether the case is one of "ascites," "ovarian dropsy" (either alone or combined with pregnancy), or "dropsy of the amnion." The resemblance of this latter condition to each of the others is very great. Indeed Smellie has described a typical case of dropsy of the amnion as one of ascites, though it is evident from his remark as to the distended state of the uterus, that he was aware the fluid was contained it it. When so accurate an observer has done this I need not be ashamed to give you, as I mean to do, the details of a case in which I tapped what I believed to be an ovarian dropsy complicated with pregnancy, the subsequent history of which has convinced me that it was really a case of dropsy of the amnion; and I may, as a further illustration of the difficulty of the diagnosis, mention that I have been asked by two of the most eminent obstetricians of this city—one of them now, alas, no more—to assist in tapping cases supposed to be ascites, but which, on full examination, proved to be dropsy of the amnion. One of these cases we let run on to the full time, but the other we had to relieve by puncturing the membrane.

The directions given in our text-books, even the most recent, for the diagnosis of dropsy of the amnion are very imperfect, and refer only to the distinction between it and ascites. Thus, Dr. Leishman in his "System of Midwifery," follows Cazeau in laying down the following rules as sufficient to make the distinction, if the cases are uncomplicated:—"In ascites," he says, "the urine is scanty and thick, and the lower limbs and genitals are ædematous. There is also fever and constant thirst. It is difficult, if not impossible, to recognise the outline of the uterus, and, in the course of our examination by palpation, distinct fluctuation is to be detected. In dropsy of the amnion, again, there is normal urine and little thirst. The lower limbs are often perfectly free from cedema, or if it be present it is so to a comparatively small extent. The rounded form of the distended uterus can generally be made out, but the fluctuation

is very deep-seated and obscure."

I need not say that a diagnosis founded on a comparison of symptoms such as these is necessarily uncertain, but, independently of this source of error, the data proposed to be used are almost all erroneous—especially the remarks as to the condition of the urine

and the presence of fever.

When the quantity of fluid is very great and the abdomen is very large, the action of the heart as well as ingestion and digestion of food are greatly impeded. The patient cannot assume the recumbent posture, and the lower extremities, the labia, and the lower portion of the abdomen become cedematous; and the uterus, if the fluid be in it, is so distended, and its walls are so thinned, that its contour is lost, and fluctuation becomes so distinct that it can be seen by a person standing at a considerable distance from the patient. We all

know that, in healthy pregnancy, as the uterus enlarges its walls become thickened and grow as the child grows, but here it seems to be different—the uterine walls become thin from over-distension, and hence there is distinctness of fluctuation, and we are unable to

recognise the rounded form of the organ.

Dr. M'Clintock admits it is impossible to distinguish a case of dropsy of the amnion from ascites by any difference to be recognised in the fluctuation of the two tumours. Internal examination will generally, he says, supply stronger evidence. The expanded state of the cervix, the extreme tension of the lower segment of the uterus. and the ease with which the child can be displaced, all are corroborative signs of the ovum being unusually distended with fluid. He does not attach the same diagnostic value to the inaudibility of the fœtal heart-sounds and of the placental murmur that some writers do, because in a considerable proportion of the cases the child is dead, and in many the pregnancy is not sufficiently advanced for the fœtal heart-sounds to be audible. In some of his cases the os uteri was found open with the tense membranes projecting through When the uterus can be reached with the finger, and this condition discovered, the diagnosis is sufficiently easy, but when the distension is very great the whole uterus is so much drawn up out of the pelvis, and the patient has so much difficulty in getting into a position favourable for making an examination, that it is not at all easy to recognise the condition mentioned by Dr. M'Clintock; and, so far as my experience goes, moreover, it is rare to find the os open or the membranes protruding. As for the fœtal heart-sounds, their presence proves the existence of pregnancy, but their absence proves nothing.

It appears to me the diagnosis of dropsy of the amnion from ascites may be made on principles more clear and definite than any that have been laid down. In ascites the fluid is free in the cavity of the peritoneum, in dropsy of the amnion the fluid is encysted; and, consequently, the same rules that enable us to distinguish ovarian dropsy from ascites, enable us to distinguish dropsy of the amnion or any form of encysted dropsy. When the fluid is free in the peritoneum the intestines float to the surface, and the highest parts of the tumour give out a clear note on percussion, the lower parts into which the fluid gravitates are dull on percussion. When the fluid is encysted the intestines are pushed upwards and backwards, and the highest parts of the tumour are dull, and the loins and epigastrium are clear on percussion. The study of ovarian disease has made us so familiar with this that one cannot help wondering that in text-books, published so recently as those of Leishman and Playfair, it has

not been made use of as a means of diagnosis.

When it is established that the case is one of encysted dropsy, we have to inquire what form of encysted dropsy. It may be an over-distended bladder, or dropsy of the amnion, ovarian dropsy, or pregnancy and ovarian dropsy combined. When there is retroversion of a gravid uterus or any tumour pressing on the urethra, the bladder may be so distended as to be easily mistaken for an over-

distended uterus or an ovarian tumour, but the dribbling of the urine, which is always seen in such cases, marks their true nature, and the use of a catheter eliminates that difficulty. We have still to consider whether it is an ovarian tumour with or without pregnancy, or the affection of the amnion under consideration. Here we must for the present depend almost altogether on the history of the case and on the recognition, when possible, of the conditions mentioned by Dr. M'Clintock, to which may be added the state of the breasts and the presence of a body floating in the abdomen having the outline of a fœtus. As already mentioned, the uterus, when greatly distended with fluid, is usually drawn up high into the abdomen, and reached with much difficulty on a vaginal examination, so that the condition of the os and cervix are not easily ascertained, and the cedema and swelling of the labia add very much to the difficulty. This high position of the uterus is, however, in itself a feature of much importance in the diagnosis, for if the large fluctuating tumour in the abdomen be a unilocular ovarian cyst, the uterus, whether gravid or not, will probably lie low in the pelvis and be reached without difficulty; so that if the abdomen be filled with a large freely fluctuating tumour, having the characters of an encysted dropsy, and the uterus is so high up in the pelvis as to be reached with difficulty, the case, according to my experience, is likely to prove one of dropsy of the amnion. If, on the other hand, the uterus is low in the pelvis, with an encysted dropsy in the abdomen, the case is probably an ovarian cyst with or without pregnancy; and the condition of the os and cervix will enable us to decide as to the the absence or presence of this latter condition, assisted by an examination of the breasts and the history of the case.

I will now read from our hospital case book the case to which I have alluded, in which I was induced to tap, believing it to be ovarian dropsy:—Mrs. O., aged forty-one, was admitted into the Coombe Hospital on 7th May, 1876; had been married eighteen years, and had had seven children and two miscarriages the last seven years ago. Her last child was born on the 3rd of July, 1869. Her menstruation was regular up to the last twelve months, since when it appeared at intervals of two months, lasting nine days, but causing no pain. Since last Christmas she was under the impression that she was pregnant. About three months since she fancied that she was a good deal larger than she ought to be, and suffered from pain in the right side. She consulted her physician, who said he considered there was an enlargement of the ovary, but did not think she was pregnant. On her admission into the hospital her abdomen was much larger than at the full period of pregnancy. It fluctuated freely on palpation throughout its whole extent, and was dull on percussion anteriorly and below, clear in the epigastric and in each lumbar region. No solid matter could be distinguished. On examination with a stethoscope a soft blowing murmur was heard, synchronous with the mother's pulse. On examination per vaginam the uterus was found to be high up, the lips soft, and the os rather open. The

body of the uterus was reached with difficulty, but was believed to be enlarged. The labia and nymphæ were large and purplish in colour. No fœtal heart sounds could be heard. There were dark areolæ round the breasts, but no glandular enlargements. The diagnosis arrived at was that it was ovarian dropsy complicated with pregnancy. On the 9th of the same month she was tapped, when we obtained fluid to the amount of eighteen pints and twelve ounces, of a pale straw colour. She returned home on the 12th, and on the 16th we had a letter from her husband announcing that she had been confined of twin fœtuses, both of which were dead. We heard afterwards that she had no return of the dropsical affection, but that she became pregnant subsequently, went through the usual term, and was delivered of a healthy living child. We believed at the time that this was a case of ovarian dropsy complicated with pregnancy; but from the fact that there was no return of the tumour, and that she was delivered of dead fœtuses, and subsequently became strong and well, and gave birth to another child, I quite changed my opinion. and I now believe the case was one of dropsy of the amnion.

Dr. Macan did not think that dropsy of the amnion could be distinguished from ovarian dropsy, by the fact of the cervix being drawn up, since this condition might arise from the traction of an ovarian cyst. Dropsy of the amnion had been generally noticed as occurring with twins, and Dr. McClintock stated that one only of the twins is usually affected, a strong proof that the condition does not depend on disease of the mother. He had heard of a case this year in Dublin, in which a patient had been tapped as for ovarian dropsy, and the sequel showed the case to have been dropsy of the

amnion.

Dr. MacSwiney remarked on the value of re-percussion as distinguishing dropsy of the amnion from ovarian tumour and from ordinary pregnancy.

Dr. Doyle mentioned two cases in which inertia of the uterus in

labour had resulted from over-distension by amniotic fluid.

Dr. McCLINTOCK had called the disease "dropsy of the ovum," because sometimes the fluid was contained in the chorion, not in the amnion. In this condition the contractions of the uterus were very feeble and almost imperceptible, owing to its over-distension, and he had been unable to detect them in the cases that had come under his notice.

Dr. Kidd, in reply, said that he also had never been able to detect the uterine contractions. The placental murmur was not sufficient proof of pregnancy, and something like it might be heard even in ovarian tumours. Repercussion was a valuable sign, if it could be obtained, but this was not always the case. Dr. McClintock had explained that if the twin highest in the uterus were the subject of dropsy, the lower twin might be so pressed down that it would not yield before the finger. The case he had recorded had been seen by most of the leading obstetricians, and all concurred that it was ovarian dropsy, complicated by pregnancy.

Obstetric Summary.

Ovarian Gestation.

In an article published in the *Annales de Gynécologie* for July, 1878, Dr. Albert Puech reviews the various recorded cases of ovarian gestation, and relates an unmistakable example of that condition at a very early stage observed by himself. He begins by remarking that those authors who recently have energetically and too rashly denied the possibility of ovarian gestation have done to science the benefit of causing the cited examples to be subjected to a rigorous scrutiny, from which has resulted the admission of the indubitable existence of this form of extra-uterine foetation, but, at the same time, the establishment of its extreme rarity.

The case observed by the author is the following:—The patient was thirty years old, and was assassinated by her husband, who had surprised her with her lover in the conjugal chamber. Although the left heart, the intra-ventricular septum, the right heart, the diaphragm, the liver, &c., were perforated by the knife with which she was stabbed, she had still strength to descend the stairs and call for help

before falling dead in the street.

At the autopsy, the mammary glands were found to be firm and voluminous, and a little serous fluid could be pressed from them. The cervix uteri showed the changes usual in women who have borne children. The uterus was of rather large size, but both its tissue and the mucous membrane were bloodless. The pelvic cavity presented numerous adhesions, the relics of a bygone metro-peritonitis of a serious kind, by which the fundus uteri and its annexes were fixed to the rectum and surrounding parts. On the right, the Fallopian tube was fixed by a number of adhesions, by which its pavilion was completely obliterated, and it remained only as a fibrous cord. corresponding ovary was very voluminous, being the largest of which the author has taken measurements—that is to say, being fifty-eight mm. long, forty-two wide, and thirty-eight thick. It showed a wellmarked corpus luteum measuring eighteen mm. in its greatest diameter. Had it not been for the pregnancy existing in the other ovary, one would have concluded that this belonged to a menstruation about eight days previous; but under the actual circumstances the author believes that at the last period there was a simultaneous rupture of two vesicles, and that the fecundation of one of them prevented the retrogressive changes in the corpus luteum of the other. He does not admit the occurrence of ovulation during pregnancy.

The left Fallopian tube, like the right, was fixed behind the ovary by adhesion, but had remained permeable. Its pavilion was closed in great measure, but not completely, and admitted a probe. The left ovary measured forty-six mm. long, twenty-six broad, and eighteen thick. It contained Graafian follicles of varying development, the largest being eight mm. in diameter. At its outer extremity was a rounded body, of the size of a large cherry, its largest diameter being twenty mm., while its smallest was twelve mm. Its envelope was

transparent, and furnished with well-marked reticulated vessels. At one spot a deep violet coloration was seen over a space the size of a lentil, and around this the envelope was thickened. Over most of the rest of the surface a yellowish substance could be seen through the translucent envelope. On opening the cyst with scissors, a prominence with a villous surface was found attached at the area of violet coloration; while over the rest of the surface a yellowish layer half a millimetre thick could be easily separated from the cyst wall. The villous prominence was furnished with large vessels, and formed a semi-ellipsoid measuring ten mm. by ten mm. On incising it with cataract scissors, it was found to contain a cavity distended by a clear fluid. In the fluid floated an embryo, in the form of a vermiform body, one mm. long, curved in the middle and swollen at one extremity. It was enveloped in an excessively delicate membrane, by

which it was fixed to the presumed chorion.

The author enumerates the following criteria as necessary for proof of an ovarian gestation:—1. The absence of the corresponding ovary. 2. The union of the fcetal sac to the uterus by the ovarian ligament. 3. The presence of ovarian tissue in the walls of the sac. 4. The Fallopian tube must not take part in the formation of the walls of the cyst, and its pavilion must be distinguishable, although in the later stages of pregnancy the tube may be extended, and adherent to the cyst. He criticises the opinion of Schroeder, that the ovarian variety of extra-uterine fcetation is commoner than has hitherto been supposed, and that a large number of the cases described as abdominal pregnancy have really been ovarian pregnancies. Reviewing some of the cases quoted by Schroeder, he shows that, in several of them, the above-mentioned criteria of proof were not satisfied, and he believes that in many cases what have been described as ovarian pregnancies were tubo-ovarian, or abdominal pregnancies in which the placenta became attached to the ovary. Of truly ovarian pregnancies, he considers that there may be two varieties—one in which the Graafian follicle remains open after fecundation, and the ovum gradually bulges into the abdomen; the other in which it becomes closed, and the fœtal sac remains throughout covered with the envelope of the ovary.

One case is quoted of primary ovarian gestation, which became abdominal after rupture of the sac. A woman, aged forty, the mother of three children, was fecundated during a menstrual period on January 31, 1857, after which she started on a journey, and the next day was attacked by pain in the hypogastrium. The menses did not recur, but the pains continued. At the beginning of May she was treated for peritonitis, pregnancy being then diagnosed. Fœtal movements were felt during June. At the end of July symptoms of peritonitis recurred, and led to death on October 31st. At the autopsy, the right ovary, still united to the uterus by its proper ligament doubled in thickness, was found to contain a cavity clothed by placenta, from which issued the torn chorion and amnion. The

ovary, thus transformed, was free from adhesions to surrounding parts, and notably free from the pavilion of the corresponding tube. The fœtus was in the abdominal cavity, and had there set up peritonitis. In this instance both the fœtus and the mother had survived the first rupture.—(Walter, Mon. f. Geburtsh. xviii. p. 174-188.)

To show that the sac of an ovarian feetation may rupture and lead to a fatal result in the early months, although the rupture is not so common as in tubal fœtation, a specimen described by Willigk is quoted. The uterus is hypertrophied as in the early months of pregnancy, and contains a decidua partially detached in shreds. The right tube, closed at its free extremity, shows traces of adhesion; the right ovary is perfectly normal. On the left, the two layers of the broad ligament envelope a rounded sac seven ctms. long, the anterior wall of which shows an extended and irregular rent. The sac contains some clots, and an embryo of about three months development, partly surrounded by a membrane. A funis four ctms. in length is inserted into a placenta. The left ovary is in intimate connexion with the posterior wall of the sac, upon which it appears to be spread out, and the microscope shows that the fibres of the tunica albuginea of the ovary are manifestly continued into the wall of the The left tube is distinct from the fœtal sac, but its pavilion is fixed by old adhesions. Nevertheless, it has its normal calibre for abouts two ctms. from the ostium abdominale. From that point to the uterus its lumen is completely obliterated.—(Prager Vierteljahr. f. Prakt. Heilk., 1859, iii. p. 59.)

The following case is quoted of an ovarian feetation which proceeded to term:—A woman, aged thirty-six, who had had one child nine years before, presented herself in July, 1876, complaining of pain in the hypogastrium, felt especially since the end of May, at which time the last period had occurred. The uterus was found moderately enlarged, and at the right side was an irregular and adherent tumour of the size of a small apple, which was interpreted as being an inflammatory thickening in the broad ligament. At the same time a uterine pregnancy was thought probable. The patient was then lost sight of until March 5, 1877, when she applied for assistance to Professor Spiegelberg. By her account pregnancy had proceeded normally until four days before, when expulsive pains had come on, accompanied by signs of peritonitis. An examination showed the existence of diffuse peritonitis, the emptiness of the

uterus, and the presence of a living child.

Although the state of the mother was desperate, gastrotomy was practised as an *ultima ratio*. The incision gave vent to a large quantity of pus, yellowish and tinged with blood, after which the fœtal sac appeared. In dividing the envelope the placenta, which was attached to the anterior wall, was incised, and violent hæmorrhage was set up. A living child was extracted by the legs. A portion of the divided placenta was detached, and another portion tied *en masse*. The patient, exhausted by the loss of blood, die d

during the night. The child, brought up by the bottle, lived to the

age of three months.

The uterus was hypertrophied, and measured fifteen ctms. in length. Its mucosa was thickened, and its superficial layer was loose and easy to detach. The left tube was intact for seven ctms. from the uterus; its outer extremity was lost in adhesions. The left ovary was of normal size, and contained no trace of corpora lutea. On the right side was the foetal sac, measuring, after collapse, ten ctms. in diameter. It was attached to the uterus by the ovarian ligament. The right tube passed above the sac. It could be traced for a distance of twenty-two ctms., but while in half of its course it had a normal calibre, in the other half it was converted into a flattened cord which was lost upon the external surface of the sac. The ovary was situated inferiorly to the wall of the sac, and in connexion with the ovarian ligament. It contained a small dermoid cyst, as large as a cherry, which was lost upon the wall of the sac without definite limit. (Spiegelberg, Arch. f. Gyn., xiii. p. 73.)

The author concludes that the correct treatment is to perform gastrotomy when the pregnancy is approaching near to term, while the mother is in good condition, and without waiting for the super-

vention of peritonitis.

Gynacie Summary.

The Histological Characters of Erosions of the Cervix, and of Commencing Cancer.

In a paper published in the Zeitschrift für Geburtshülfe und Gynäkologie, Dr. C. Ruge and Dr. J. Veit of Berlin give the results of their microscopical investigations as to the nature of erosion, and the mode of commencement of cancer. Reviewing the opinions of previous authors, they point out that it has been generally held that in erosion the squamous epithelium of the cervix is completely cast off, either en masse from the result of inflammation or traumatism, such as that of labour, or by disintegration from the effect of maceration, and the villous prominences seen in the severe forms of so-called erosion are the result of the hyperplasia of the normal papillæ thus left bare. From examination of the normal cervix they find the boundary line of cylindrical and squamous epithelium to be sharply defined. They conclude that normally there are no glands on the outer part of the cervix and that the closed follicles, or "Nabothian glands," often found there in cases of inflammation of the cervix are new and morbid products, formed as the result of irritation from the rete Malpighi of the squamous epithelium, while in other cases complete glands having orifices may be formed. The glands of the cervical canal they find to have a different character in childhood and in adult life. In childhood they take the form of globular depressions in the mucous membrane separated by papillary prominences: in adult life they form long narrow tubes, which frequently divide, extend deeply into the cellular tissue, and expand somewhat at their extremities.

Examining cases of so-called simple erosion of the cervix, they find that the surface is not denuded of epithelium, as described by Tyler Smith and others, but is everywhere covered by a single layer of cylindrical epithelium. They attribute the opposite opinion of other observers to their having examined specimens taken from the dead body, whose epithelium was therefore macerated, while, in their own case, the cervix had always been removed by amputation from the living subject. In the early stage of erosion, they find the surface to be nearly smooth, the normal slender papillæ having been cast off with the squamous epithelium. Slight inequalities producing the well-known granular appearance, are due to the epithelium growing inwards in places into crypts or gland-like depressions, while the intervening tissue is raised into prominences. At the edge of erosion the single layer of epithelium is continuous with the deepest cylinder-like layer of the rete Malpighi of the squamous epithelium. The authors consider that the source of the morbid condition is a changed nutrition of this layer. Instead of continuing to produce the successive superficial layers, it takes an independent activity of its own, under the influence of irritation, and assumes the appearance of a cylindrical epithelium tending to grow into glandular depressions, while the superficial layers of squamous epithelium are thrown off, carrying with them the normal papillæ. They give microscopic drawings which show just beyond the margin of the erosion commencing formation of the glandular crypts, having a lumen, beneath the upper layers of the squamous epithelium still in place, and arising from the changed growth of the deepest layer of cells.

The more severe forms of so-called villous erosion, they found to be a further stage of the same condition. The villous prominences are many times greater than the normal papillæ, and may be as large as intestinal villi. They arise from up-growths of the connective tissue intervening between the gland-like crypts. At the same time the crypts grow inward, and bifurcate, thus forming glandular acini, or irregular cavities, lined with cylindrical epithelium, and extending to some little depth below the surface. One case, however, was observed, that of a cock's-comb-like granulation of the anterior lip of the cervix, at a distance from the os, in which the condition was really that of an hyperplasia of the normal papillæ, as well as of the epithelium covering them, resembling a pointed condyloma.

Although the appearance of the surface of an erosion resembles that of the cervical mucous membrane, the authors contend against the view that it arises from proliferation of the cervical mucous membrane outward, or as the consequence of laceration and ectropion of the cervix, but are convinced that it is produced by the growth of the rete Malpighi in the manner described. In proof of this they adduce the case of erosion in nulliparous women, to whom there can

be no question of eversion, but yet the diseased surface may extend to a considerable distance from the os. They find rather that when the cervical mucous membrane is everted, it loses its cylindrical epithelium, and becomes covered with squamous epithelium, although the surface so changed may afterwards, by its exposure to irritation, become affected by "erosion" or granular inflammation. Hence they consider that the clinical importance of ectropion and the value of Emmet's operation for closure of the lacerations by a plastic operation have of late been enormously exaggerated. They themselves find that, in a large proportion of cases, laceration and ectropion exists without being followed by any "erosion."

As to the true nature of erosion, then the authors find that although in the initiatory stage there is a loss of substance of the vascular and cellular tissue of the papillæ as well as of epithelium, yet there is no complete abrasion of epithelium and they consider the terms ulceration, abrasion, or erosion, inappropriate, the true process being rather a glandular degeneration from the effect of irritation. As a therapeutical inference it follows that the caustic applications used to effect a cure ought to be of sufficient potency to affect the tissues to some depth, especially in the more severe forms of erosion in which glandular crypts are formed to some

distance beneath the surface.

Several cases were examined in which the erosion was of such a kind as to lead to the suspicion of commencing cancer, and the cervix was therefore amputated. In some of these evidence of cancer was found, in others not. In one case the erosion had reached the margin of one lip of the cervix, and extended on to the vaginal wall. On microscopic examination, however, there was found only the glandular degeneration, with the formation of pseudopapillæ already described as characteristic of villous erosion, although the case appeared to afford an indication of the probable nature of the earliest stage of cancer. The connective tissue beneath was hyperplastic, had become arranged in stripe-like bands, and was infiltrated with numerous nuclei. In other cases, very similar to the naked-eye appearance, malignant degeneration was shown by the proliferation of the cells lining the glandular cavities so as to form projections into them, or entirely to block up their lumen, instead of remaining as a single layer of epithelium, while the cavities themselves were increased in an irregular manner. cancers of somewhat further development, similar appearances were seen, with, in addition, collections of cancer-cells deeper in the tissue, closely resembling glandular acini completely filled up.

The authors do not accept the view of Thiersch, Billroth, Waldeyer, Klebs, and others, that carcinoma only arises from epithelial structures, and they also controvert the view that the so-called cauliflower excrescence is commonly of "cancroid" nature (epithelioma), originating from proliferation of the deep layers of squamous epithelium. In one case of this kind they found the squamous

epithelium intact and normal over the edges of the growth, showing no tendency to hyperplasia of the papillæ, while the tissue beneath was infiltrated by what they describe as a typical carcinoma, the cells being arranged in alveoli. Finding a delicate intercellular substance to exist amongst the cells contained in the alveoli, they regarded this as a proof that the carcinoma originated by proliferation of the connective-tissue corpuscles, and their transformation into epitheliumlike cells, according to the original view of Virchow. They also record their observation of masses of cancer cells being produced by growth of the connective-tissue cells, as evidenced by the existence of transitional forms, so that there might be said to be a sarcoma-stage of carcinoma. In another case of apparently cauliflower excrescence, the surface was covered in the main with normal squamous epithelium, while the tissue beneath was infiltrated with an extension beneath it of glandular acini, degenerating into masses of cancer cells. In only one case of cancer did they observe proliferation of squamous epithelium inward in columnar forms, and here there was also gland degeneration, and the formation of glandlike cavities within the columnar processes of epithelium. They refrain therefore from affirming that the inward growth of epithelium is one of the modes of origin of cancer of the cervix.

As to the diagnosis of the early stage of cancer, the chief suggestion of the authors is that, in doubtful cases of erosion, which readily bleed on touching, a small portion, not less than half a centimetre deep, should be cut off for microscopic examination. They reject as altogether valueless two criteria given by Spiegelberg. The first is that the mucous membrane becomes immovable over the tissue beneath, being "nailed down" to it by the processes of epithelium. They find, microscopically, that these processes of epithelium do not exist, and practically that the test fails. The second test is that hyperplastic induration of the cervix is softened by a sponge tent, while cancer remains hard. The authors do not consider it justifiable to expose a patient to the risk which would be incurred by the application of this test in commencing cancer, and they believe that the reaction of tissues not cancerous to the pressure of a sponge-tent

varies very much in different cases.

The Development and Maturation of Graafian Follicles during Pregnancy.

Dr. Slavjansky, of St. Petersburg, describes the condition of the ovaries in a case of extra-uterine foctation, and draws some general inferences as to the development of Graafian follicles during pregnancy. The patient was twenty-four years old, had had one child previously, and died from rupture of an extra-uterine foctation of the left Fallopian tube of three and a half months' development. Menstruation had been suppressed during the pregnancy, but a slight discharge of blood had taken place for two or three weeks before

rupture of the sac. The portion of the left Fallopian tube distended

by the fœtal sac was that near its insertion.

The left ovary was 3.5 cm. long and 2.5 cm. broad. Its surface was covered by cicatricial furrows, and in places it was adherent to adjacent parts by long transparent false membranes. One portion appeared swollen, and a transverse incision at this part laid open a cavity 1.3 cm. in diameter, two-thirds filled by contents which had been coagulated by the alcohol in which the specimen had been kept. Towards the surface of the ovary the wall of this cavity was as thin as a sheet of paper, the thickness not being greater than 0.05 cm. Towards the posterior surface of the ovary was a softened spot 0.4 cm. in diameter, having the appearance and characters of a corpus luteum. In the cortical substance were several cavities with coagulated contents, the largest 0.3 cm. in diameter, having precisely the appearance of Graafian follicles in different stages of development. Beneath one of the furrows in the same part was a brick-red, irregularly stellate body, 0.2 cm. in diameter.

The right ovary was 2.7 cm. long and 1.5 cm. broad, and its surface was furrowed like that of the other. At its internal part, near the ovarian ligament, was a prominence, a section through which showed a recent corpus luteum, 1.0 cm. in diameter. Its central portion was whitish and firm, and white stellate bands extended from it into the yellow substance. Near the corpus luteum

was a Graafian follicle o 3 cm. in diameter.

On microscopic examination of the walls of the principal cavity in the left ovary, they were found to correspond to those of a ripe Graafian follicle. The internal surface was covered by flattened cylindrical epithelium, the cells of which resembled those in the membrana granulosa of the smaller Graafian follicles. A small prominence was noticed near the thinnest part of the wall. Being removed on the point of a needle, it proved to consist of a mass of epithelial cells, in the midst of which was an ovule. This cavity was then clearly not a cystic degeneration, but a Graafian follicle ripe and ready to burst. The corpus luteum, 0.4 cm. in diameter, in the left ovary had all the microscopic characters of these bodies. Its cells, however, showed commencing degeneration, and their nuclei were scarcely discernible. The larger corpus luteum in the right ovary had the characters of the true corpus luteum of pregnancy strongly marked. The cells were clearly marked and their nuclei distinct. The central portion consisted of a connective tissue of recent origin, containing more round as well as fusiform cells than in the other case. The cortical substance of both ovaries also contained the bodies formed by abortive Graafian follicles, that is to say, stellate masses, consisting of connective tissue of recent or old formation. In one was found the trace of an ovule, in the form of a collapsed zona pellucida.

The author concludes that during pregnancy there may be found, but perhaps only exceptionally, Graafian follicles, ripe, and on the point of bursting, and remarks that Scanzoni has admitted the possibility of follicles becoming mature, though not of their bursting, during pregnancy. Of the three corpora lutea visible to the naked eye, he considers that the most recent, situated on the side opposite to the pregnancy, was due to a follicle which had ruptured since the commencement of gestation, and that a migration of the ovum across the peritoneal cavity was not to be inferred. The second in age, which had also the character of the true corpus luteum of pregnancy, he considers to have belonged to the fecundated ovum which was arrested in the Fallopian tube of the same side. The older and brick-red body he regards as being of a date anterior to gestation. Thus the case would show the possibility, not only of the rupture of a Graafian follicle during pregnancy, but of the formation thereby of an additional corpus luteum. The author refers to the view of Mayrhofer (recorded in the Obstetrical Journal, vol. iv. p. 699), who holds that follicles rupture during pregnancy as at other times, and that the corpus luteum of pregnancy does not correspond to the fecundated ovum, but is formed afresh every month. He considers that this cannot be accepted until established by a greater number of well observed cases, and points out the necessity for examining the ovaries in all parts with greater minuteness than has usually been employed.—Annales de Gynécologie, February, 1878.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"The Bearings of Chronic Disease of the Heart upon Pregnancy, Parturition, and Childbed, with Papers on Puerperal Pleuropneumonia and Eclampsia." By Angus Macdonald, M.A., M.D. J. & A. Churchill. Pp. 287.

"Transactions of the Clinical Society of London." Vol. XI.

Longmans, Green & Co. Pp. 277.

"On the Induction of Premature Labour in the Albuminuria of Pregnancy." By Fordyce Barker, M.A., LL.D. New York: 1878. "Ueber eine Totale Uterusexstirpation nach Freund." Von Dr. G. Leopold. Leipzig.

"Zur Lehre von der Graviditas Interstitialis." Von Dr. G.

Leopold. Leipzig.

Communications received from Dr. Matthews Duncan, Dr. Sansom, Mr. Lawson Tait, Dr. G. Hamilton, Dr. Whiteside Hime, and Dr. Godson.

All communications, books for review, letters, &c. for the Editor, may be addressed to the care of the Publishers, 11, New Burlington Street, London, W.

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Original Communications.

THREE CASES OF

VERY LARGE POLYPI OF UTERUS,

IN WHICH THE USUAL MODES OF DIAGNOSIS WERE UNATTAINABLE, REMOVED SUCCESSFULLY.*

By J. Braxton Hicks, M.D. Lond., F.R.S., F.R.C.P. Lond., &c. Examiner in Obstetrics at Royal College of Physicians, London; Obstetric Physician and Lecturer on Obstetrics at Guy's Hospital.

IT is a rule which cannot be too strictly adhered to, before we attempt to remove a growth we suppose to be a uterine polypus—namely, to pass the sound into the uterine cavity. When this has been done, then we can ablate with all confidence; when this cannot be done, then we must exercise the extreme of caution before removing; and do the operation in fear and trembling. It is not often that we are unable to prosecute the diagnosis completely. It may be difficult to find the aperture of the os uteri, owing to polypus springing from the greater part of the oral circumference, still it can always be found with diligence if we can reach this part. But when the polypus fills the whole vagina, and having distended this to the utmost, presses firmly against the pelvic walls, then it is, that being unable to reach the os, we must attain our diagnosis by other less direct means. might be supposed by some who had not had an opportunity

of seeing these great polypi, that the removal might be optional, and that, provided the blood loss be not severe, no great harm would accrue if they were left alone. But a moment's consideration will show that when the whole pelvic cavity is thus occupied, and the vagina extended to its fullest, laterally and upwardly also, the parts about the brim become pressed upon, and thus the ureters are impeded and distended, and then disorganisation of the kidney commences, to end in fatal results. Besides this, the lower part of the polypus begins to slough, serous exudation with sero-sanguineous discharge, or even copious losses of blood, drain the patient; while a certain amount of septic absorption hastens her deterioration and renders her less able to contend with the dangers attending the removal of the growth. Another circumstance tends to exhaust the patient, namely, that the pressure on the lower vagina produces bearing-down pains, very similar to those produced by the pressure of the fœtal head in labour. Sometimes this is very distressing, and in one of the cases to be related the patient fancied herself in labour, and sent for her medical man, who, finding the state of things, sent for me. After these expulsive efforts, not so much uterine, as what is called in regard to labour "auxiliary," have continued for some weeks, it can readily be seen that the effects of the polypus are much enhanced.

Again, another reason which urges us to remove the mass, is the tendency of the pressure to cause abrasions, and then adhesions. In one case this was so extreme that the polypus appeared to spring from the vaginal wall posteriorly, and had to be enucleated from that septum.

Agreeing, then, as to the necessity for their removal, how are we to insure that our diagnosis is correct, when we are quite unable to pass the sound into the cavity of the uterus?

Perhaps it will be best to narrate the three cases I have selected, and describe the points applicable to each.

CASE I.—A woman about forty years old suffered uneasiness in lower abdomen, with some losses of blood from time to time; she gradually became larger in her abdomen, and then after a few months, these symptoms continuing,

she was taken with violent bearing-down pains and constant straining. Thinking herself in labour, she sent for her medical man, who with difficulty persuaded her that she was not pregnant. I was then sent for, and found the vagina occupied entirely by a large mass, apparently springing from the posterior vaginal wall. She was very ill: pulse 120. Tongue dry and brown. She was able to take but little nourishment. She had expulsive pains like those of labour intermittently every five or ten minutes' interval, and this had occurred for many days. It was arranged that she should come into Guy's Hospital for the removal of the tumour, which she accordingly did. She was placed under chloroform, and the mass examined. The lower end was sloughy, the vagina distended to the fullest extent, so that the hand could not be passed by it, to reach the os uteri. The growth appeared to spring solidly from the posterior wall of vagina. The uterus was felt from above to be pushed up higher than normal, but not enlarged.

From the firm attachment which existed between the posterior vaginal wall and the growth, I thought that it was a case of vaginal polypus, which, though rare, has been occasionally noticed, and I proceeded to remove it by enucleation. As this could not be done without lessening the mass, I removed portions by the scissors. When I had brought away about half, I could then pass my hand to the os uteri, and thus found the exact nature of the growth. It was attached by a long narrow neck to the edge of the os uteri. It was then clear that the vaginal attachment was secondary. I divided the true neck, completed the enucleation and removed by the scissors what loose portions of the capsule remained. No hæmorrhage occurred of any consequence throughout the operation.

She went on for a week after the operation with very little disturbance, when she rapidly fell into a comatose condition, and died in about twelve hours. No post-mortem was allowed. Judging from the history of other cases, I should conclude that death was owing to renal mischief.

Remarks.—The occurrence of violent forcing pains in this case, similar to those which, as will be shown, occurred

in another case, is an interesting physiological phenomenon, showing that their occurrence during labour depends upon nothing specially belonging to that condition, although they may be intensified by it.

Again, the mode of the vaginal adhesion was very deceptive; and it must have existed a long time, for the line of the contact, which extended about three inches in diameter, was not all marked, but the finger ran off from the vaginal wall on to the polypus in so continuous a manner, as to exactly imitate a growth springing from the wall originally.

CASE II.—Occurred in a woman aged forty-five; multipara; the last labour nine years before. She was admitted into Guy's Hospital in a very anæmic state, with a high temperature, quick pulse, and abdominal tenderness. She said that but recently there was a lump in the lower abdomen, which had now disappeared, and that she had had great difficulty in passing her urine. With regard to her menstruation, she had for the last four years profuse menorrhagia, till six months ago, since which there has been chiefly leucorrhœa, which has an offensive smell.

The history of a lump in the lower abdomen, which had disappeared, and the finding a large mass in the vagina, led the first attendants to suppose a uterine fibroid had been expelled into the vagina. The occurrence also of offensive discharge led further to the notion that it was undergoing decomposition. She was treated with quina, antiseptic injections, and opiates. The offensive secretion ceased, and tenderness passed away in a few days, and as the mass did not alter in condition, but remained firm, I came to the conclusion that possibly it was a large polypus which had pressed on the urethra, caused an impediment to urination, and detained the vaginal discharges, so as to lead to their decomposition.

But the vagina was filled down close to the vulva by so large a mass that the hand could not pass by it, so as to touch the os uteri. The external hand, however, appeared to make out the form of the uterus, movable above the mass, which rose above the level of the brim. To clear up the diagnosis, I arranged to place her under chloroform, and,

should it appear probable that it was a polypus, to remove it at once.

This was done, and though the internal hand could not pass the mass, manipulation outside showed that the uterus was above it. The tumour also rotated easily in the vagina, which, to my mind, showed that it had not a large attachment to the uterus. And, as it had not sloughed, it was also clear that it was not a fibroid expelled out of the uterine wall. Having thus cleared the supposition inversion, and a recently expelled fibroid, the only condition which remained was that of polypus. I therefore passed the noose of the single-wire écraseur around it, and without difficulty severed its attachment, which was about two inches in diameter. To remove the polypus was our next trouble. I tried the short forceps, but it was too great to remove it by them without damage. I therefore took them off, and seizing it by the vulsellum forceps, divided it by a spiral section from below upwards by the scissors, and then by rotating the vulsellum during traction, it came elongated without trouble. No bleeding ensued. recovered excellently.

Besides the points alluded to in the narration of this case, the occurrence of offensive discharge gives us an instance of one of the causes of this symptom, which might be too hastily considered to indicate malignant disease or sloughing.

The history of the case also shows that we may easily be misled if we rely too much on an apparently clear history.

The third case is as follows:—C. B., aged fifty, married, multipara: last child seven years old; states that two years after this confinement her womb came down, after which she had great trouble in passing water, and the catheter had to be passed continually for the next three or four years. She had till two months since very severe menstrual flow. She was taken into a provincial hospital for the removal of what was supposed to be a large polypus, but as on closer examination it was thought to be an inverted uterus, no operation was attempted, but a stem pessary was tried, which, however, could not be borne. About two months before coming under my care, I was told a portion of the tumour protruded

through the vulva, as large as a turkey's egg, giving much distress; this portion, however, sloughed and came away in about a fortnight. Some relief was obtained by this, but she was unable to get about with any comfort.

On her admission into Guy's Hospital, I found the vagina wholly occupied by a firm slightly elastic mass extending above the brim of the pelvis, nearly to umbilicus, filling up the cavity of pelvis very completely, and putting the vaginal walls to extreme tension, specially noticeable in the direction of its long axis. The os uteri could not be reached; the mass overlapped the brim where it touched it. There was much tenderness; and offensive discharge, partly caused by the retention of the secretions, partly by sloughing of the lower surface of the mass.

I thought I could detect the uterus above the mass, through the abdominal wall, as there was a movable lump about its size to be felt there.

Besides these conditions, there were constantly recurring bearing-down pains, similar to those of labour, causing much addition to her distress, similar to that noticed in one of the preceding cases.

She was in a nervous state, pale and feverish, with an anxious countenance.

As something was necessary for her relief, and indeed safety—for I feared the vagina would bear no more straining, and the sloughing was adding to her danger of irritative fever, and also it was very probable that the ureters were subjected to pressure—I determined to place her under chloroform, to make a more complete diagnosis if possible; and then act accordingly. Having had the wire galvano-cautery machine prepared, and also all other instruments required for removal, she was placed under the anæsthetic, but learnt little more except that being able to reach the insertion of the mass in one place towards the right side, I found it was apparently continuous with the roof of the vagina as far as I could reach, with a slight exception—namely, on the right side—where I thought, though it could hardly be reached, I felt a depression.

Upon this evidence I had to rest.

I concluded from this that there was, more probably, a large fibroid polypus. For, 1st, the size was larger than that of an inverted uterus, unless it were accompanied by a fibroma, and also there was no menorrhagia for two years after confinement, most common in inversion. 2ndly, unless the lump above it were a small ovarian tumour, it was most probably the uterus; and this suspicion was half-confirmed by the want of regularity of the insertion of the growth in the roof of vagina. For one would argue that with such extreme stretching of the vagina all irregularities of the os uteri would have been obliterated in a case of inversion; but as there was no possibility of passing a sound, the crucial test could not be applied. Again, supposing the uterus were inverted, it would be very unlikely to slough, although this change is by no means rare in polypi or descending fibroids. The only point which here seemed difficult to unravel was, whether an inverted uterus-and the history would somewhat bear it out-had a large fibroma attached to its fundus, a complication not unknown. Yet here the presence of an ovarian tumour complicating it would, though possible, be rare; and thus balancing probabilities, I settled upon removing the mass piecemeal; and then, when on the removal of the lower part the diagnosis would be clear, I could proceed or stop accordingly. I therefore, partly by the galvanic wire, and partly by scissors, removed about half, when suddenly the pulse failed. Chloroform was removed, but for three minutes she was pulseless. Half-drachm of sulphuric ether was injected subcutaneously; and the galvanic battery for Faradisation was sent for. By the time it had arrived, she had revived. I attempted two or three times to proceed with the operation; but the pulse went out with the attempt each time. I was obliged therefore to desist, which was disappointing, as I was so near the solution of the case. However, I thought a good deal, and perhaps all, might slough or deteriorate away. For some days there was irritative fever, subdued, however, by free irrigation, and quina. A quantity of sloughs came away, and watery discharge, as was expected.

In about a fortnight she was examined, and the mass was

found wholly in the cavity of the pelvis, and much less than when she was on the table: its insertion could be reached, but as examination caused pain, the vagina being tender in consequence of the irritating discharges, I left her a little longer. About ten days later on, on again examining her, I found that mass was forming adhesions to the posterior aspect of the vagina; these were broken down, and the finger passed occasionally by my attentive obstetric clerk, Mr. Berry. As she was now much better in health than on admission, and able to be about in the ward, I determined again to put her under anæsthesia (this time to be ether), and if I could pass the sound into the uterine cavity to divide with the galvanic cautery wire the neck. This was done, and the sound passed the normal length into the mass which I had supposed the uterus. The section of the base was then attempted; but its great diameter gave much trouble. large carbon-zinc battery of six quart cells was scarcely equal to the undertaking, requiring wire ten inches long to be made red-hot though immersed in fluids. Three times the wire broke; however, the fourth wire succeeded in slicing off the mass level with the roof of the vagina. She did very well, and probably we shall hear no more of the growth, though possibly a thin slice remained imbedded in the anterior lip of the uterus, from which it sprang. It may be, however, this may be extruded into the vagina as a small mass at some future date.

The mass at first was about ten inches long by about five and a half at its widest, and four at its narrowest, diameter.

It is much to be feared, however, that mischief may have been caused to the kidneys, such as dilatation of the pelvis and of the ureters, which may at some future time declare itself.

Of course it will have been noticed that there was no possibility of an examination per rectum assisting in the diagnosis in these cases.

In conclusion, I may add that the removal of large polypi from the vagina, after separation from their attachment, is in my experience best carried out by reducing their size rather than by dragging them through the vulva whole; and as very little bleeding occurs from removing portions even while attached, it will be generally wise to remove so much before separation as may be required to do this satisfactorily. Of course, these remarks apply in an especial manner to those tumours or polypi whose insertion we are not permitted to reach by reason of their size.

After the discussion on the paper, Dr. Hicks, in reply to the various speakers, was anxious to point out that he had confined his paper to cases of polypi, the cases which had been recited by the speakers being those of descending fibroids. When a fibroid passed partly through the os uteri, it became strangled in a measure, and thus cedematous, varicose, apoplectical, and hence the large discharges of serum and blood; but when a polypus was below this influence, it continued normal in texture and firm, and thus the hand could not so readily pass by them as in cedematous fibroids, which are compressible.

THE SPAYING OF WOMEN.

A NOTE HISTORICAL AND PHILOLOGICAL.

By J. H. AVELING, M.D.

Physician to the Chelsea Hospital for Women; Vice-President of the Obstetrical Society of London.

EXTIRPATING the ovaries of the human female is an operation of great antiquity. It has been performed for many centuries by Eastern nations from motives social, æsthetic, and religious. Those who wish to trace the operation back to remote periods may find a bibliography relating to it in the "Satyræ Medicæ" of George Frank de Franckenau, 1722, which will require weeks to investigate. The first section of the second "Satyra" contains the pith of what was known upon the subject up to the time of his writing-the chapter, "De Castrandis Mulieribus," in the book of Père Theophile Raynaud, entitled "Eunuchinati, facti, mystice," 1655; and the little treatise, "De Castratione Mulierum," by Georgius Francus, 1673, &c. In the present paper, however, it is not my intention to consider the operation of spaying the human female in any other light than as a remedial operative procedure; and I shall endeavour, first, to

point out whom I believe to be the originator of this operation; and, second, to consider the relative fitness of the names which authorities propose to give it.

Historical.

Who proposed the operation ?- I will first investigate the claims of Dr. Robert Battey, of Georgia. In August, 1872, he extirpated both ovaries from a patient who "was suffering with the perturbing influences of an unrelieved menstrual molimen." In commenting upon this operation he says: "You perceive I have proposed for your acceptation a new operation in surgery, which I believe to be original with myself in its conception, original in its elaboration, and original in its successful operation." Dr. Battey is supported in his claim by many high authorities. The committee to whom Dr. Battey's paper, "On the Removal of the Ovaries," was referred by the Georgia Medical Association, reported "that they concur in according to the idea and its successful execution by its author the merits of originality, skill, and utility."* Dr. Marion Sims writes, "Battey is the originator of this operation;"† and all the American gynæcologists who have written upon the subject endorse his opinion. In this country Dr. Battey's claim is also acknowledged. Mr. Spencer Wells writes: "Until Battey's recent proposal to remove 'normal' ovaries, or ovaries only slightly enlarged, no ovariotomist ever contemplated the removal of an ovary not measuring more than three inches by two inches." ‡ Other writers in England and on the Continent (excepting Hegar) have also supported or admitted Battey's claim.

At a meeting of the Royal Medical and Chirurgical Society of London, held on Tuesday, June 3rd, 1823 (Mr. Abernethy, President, in the chair), the following paper was read, and thanks voted to the author for his communication: "A Contribution of Experiments and Observations on Injuries of the Belly, considered in their relation to Abdominal Surgery, by James Blundell, M.D., Lecturer on Physiology and Mid-

^{* &}quot;Normal Ovariotomy." By Robert Battey, M.D. Atlanta, Georgia, 1873. † "Battey's Operation." By J. Marion Sims, M.D. London, 1878. ‡ Brit. Med. Journ., Nov. 23rd, 1878.

wifery at Guy's Hospital; communicated by J. H. Green, Esq." From the experiments, which are briefly noticed, the author suggested that the following inferences may be drawn:—

"1st. That the generally received opinion that inflammation in a spot of the peritoneum will almost invariably diffuse itself over the greater part of that membrane, is unfounded on truth.

"2nd. That extensive divisions of the peritoneum are not of necessity fatal, and that the womb, spleen, and ovaries may be taken away without necessarily destroying life.

"Reasoning from these facts and observations, the author proceeds to suggest the consideration of some operations which hitherto have not been considered justifiable by British surgeons, such as a division of both the Fallopian tubes, the extirpation of the healthy ovary, the extirpation of the ovarian cyst or dropsy, or a portion of it, the removal of the cancerous womb, the puerperal uterus,* and of part of the bladder and spleen."†

This paper was not published in the Transactions of the Society, but was printed in abstract two years after, in a small volume entitled "Researches Physiological and Pathological," by James Blundell, M.D. The feelings of the author may be learnt from the quotations on his title-page: "Thou art a blessed fellow to think as every man thinks, &c." (Shakspeare). It is very much to be regretted that the whole of the original paper cannot now be consulted, but from this "Substance of a Paper read before the Medical Chirurgical Society of London, in the year 1823," we gather further valuable information. At page 26 may be found the following remarkable paragraph: "The extirpation of the healthy ovaries. This operation, even granting it to be safe, can scarcely in any instance be necessary, though it may be observed by the way that it would probably be found an effectual remedy in the worst cases of dysmenorrhæa, and in bleeding from monthly determination on the inverted womb, where the extirpation of the organ was rejected."

^{*} P. Hubert de la Touche, in his work, "De l'amputation Utero-ovarique," seems to be ignorant of Blundell's suggestions.

† Except from the Minute-book of the Society.

This is, I believe, the first proposal to extirpate the healthy ovaries for medical purposes, and it is surprising how the author has, in selecting the two examples in which he thought it might be useful, anticipated modern operators. "Dysmenorrhæa and bleeding from monthly determination" will be found to include most of the causes for which the operation has been suggested as a remedy, and we are compelled to answer the question, Who first proposed extirpation of the healthy ovaries as a remedial operative procedure? by replying, James Blundell, M.D.

Who first performed the operation?—As a matter of fact Professor Hegar, of Freiburg, was the first to perform spaying as a medical operation; but it is to Dr. Battey that the credit belongs of having popularised the operation and pressed it upon the attention of the profession. To him also belongs priority of publication.

Philological.

Three names have been proposed for this operation, "Normal ovariotomy," "Battey's operation," and "Spaying." The first was proposed by Dr. Battey, but it has not received the sanction of medical men, for in many of the cases the ovaries removed, although small, were not normal in structure. Dr. Battey, in the first volume of the "Transactions of the American Gynecological Society," maintains the accuracy of the term "Normal ovariotomy," but adds: "Since, however, the use of this term has met with no favour at the hands of the profession, and especially as it has but served to obscure rather than elucidate my meaning, I have cheerfully abandoned it, but in so doing I find myself at a loss at present to offer any suitable substitute." For the present he seems to have adopted the definition, "Extirpation of functionally active ovaries."

The next term is due to Dr. Marion Sims. He says: "Battey asked me some time ago to give his operation a name. I would like to see it recognised by the profession as 'Battey's operation.' I think he is fully entitled to that honour. He was the first to grasp in its widest range the influence and effects upon the general system of what he calls an 'unrelieved menstrual molimen.' He was the first

to suggest a method of cure; he was the first to carry out his own suggestion, and to perform an operation for the cure of the disease that had never been cured before. He performed the operation on his own responsibility, and with no great authority to sustain him." Now, it turns out that Dr. Marion Sims did not perfectly understand Dr. Battey's position in reference to the operation. Dr. Battey was not the first to understand the influence which spaying would have upon the general system; he was not the first to suggest it as a method of cure; he was not the first to perform the operation; and if he performed it with no great authority to sustain him, it was because he had not read Blundell's "Researches Physiological and Pathological." If the operation, therefore, is to be called after any man, it should, I think, have prefixed to it the name of Blundell. This suggestion, however, I do not seriously urge.

The third term, "Spaying," has been used by Professor Trenholme,* of Moutreal, and Dr. William Goodell,† of Philadelphia. The latter says: "Since it is important to distinguish this operation from that of ovariotomy proper, and since it is not easy to define it except by circumlocution, I shall call it *Spaying*—a term which as technically defines the character of the operation as that of castration defines the analagous operation in the male." The only objection to this term I have met with, has been made by G. J. Engelmann, M.D.,‡ of St. Louis, who says that the term is inappropriate, as it signifies "extirpation of healthy ovaries." This, however, is hypercritical, for by the same process of reasoning the term castration would be equally inappropriate when applied to the male; yet it is well known that castration is usually performed for diseased conditions of the testes.

Of the three names which have already been suggested, I am inclined to prefer "Spaying." It is short, concise, and free from ambiguity. It is derived from the Greek $(\sigma\pi a\omega)$, to draw out), and merely signifies the action of removing the ovaries, whether they be healthy, functionally disturbed, or changed in structure.

^{*} Obstetrical Journal of Great Britain and Ireland, vol. iv. p. 425. † American Journal of Medical Sciences, July, 1878. ‡ American Journal of Obstetrics, &-c., vol. xi., July, 1878.

CASE OF OCCLUSION OF OSSAND CERVIX UTERI ACCIDENTALLY PRODUCED.*

By ARTHUR WIGLESWORTH, L.R.C.P.

SOME time ago I had under my care a lady suffering from metrorrhagia, associated with menorrhagia. It had existed for some time, and was evidently the result of a neglected miscarriage.

The treatment adopted was the internal administration of ergot, sulphuric acid, and the application to the internal uterine surface of nitrate of silver. This was followed by an alleviation of the symptoms of uterine mischief, and general relief; but in a few weeks the metrorrhagia returned more profusely than ever. An examination revealed a patulous os, granular condition of cervix, and an enlarged uterine cavity. The profuse discharge of blood seemed to be caused by an unhealthy uterine mucous membrane, probably fungoid degeneration. There was little pain; but various constitutional ailments were beginning to be manifested, evidently the result of the long-continued blood discharge. I therefore determined to apply the fuming nitric acid to the whole of the uterine cavity proper. The os and cervix uteri were therefore fully dilated, and the uterine sound was first passed to ascertain the direction of the fundus, and the extent of the uterine cavity. A long probe having been bent to the proper angle, was wrapped round with cotton-wool for one and a half inch dipped into the acid, and after removing all superfluous fluid, was passed rapidly into the uterine cavity, and brought into contact with fundus and walls. On the withdrawal of the probe there was no sign of any acid on os.

The result of this operation was a complete cessation of all uterine discharge, the normal appearance of the menstrual flux in about ten days, and a complete restoration to health, and at the end of three weeks my attendance ceased.

Four months afterwards I was requested to visit her again. I then learnt that she had only menstruated the

^{*} Read before Liverpool Medical Society.

once referred to, and consequently considered herself pregnant, but was free, however, from vomiting-the invariable accompaniment of her previous pregnancies. She was suffering acutely from lumbar pain, with strong forcing-down sensations at each monthly epoch, though no discharge appeared. Upon making a vaginal examination, I found the uterine os had almost completely disappeared; a careful digital examination revealing only a minute depression. The cervix was diminished in volume, and had the peculiar cartilaginous feel so characteristic of chronic cervical endometritis. In the left lateral region was a tumour—exquisitely tender to the touch—but which was ultimately made out to be the uterus, laterally displaced and flexed. The speculum revealed a complete closure of the os uteri, a minute depression alone revealing its original site. It was at once evident that I had a case of total closure, and almost complete obliteration of the os uteri, and that this condition was evidently due to the application of the nitric acid.

I, therefore, had made a long exploring needle, and with this I endeavoured to pierce the os uteri in the direction of the cervical canal, but so dense was the structure that it refused to penetrate, and pushed up the whole uterine body, causing acute pain. I then commenced a boring motion in the same direction, and by dint of perseverance and great caution managed to penetrate the cervix about one quarter inch. I then desisted, because the patient became almost unmanageable, and inserted a strip of dry lint. The next day I increased the penetration to half an inch, with no sign of finding the canal. In this opening I placed a segment of laminaria digitata, and plugged the vagina with glycerined cotton wool. On the third day I procured from a friend a fine trocar and canula, and again commenced the boring motion, until I had by measurement penetrated one inch in all. The opening was again plugged. On the fourth day I was endeavouring to feel my exact position with the uterine sound, previously to using the trocar again—when, on applying some little force, the sound suddenly seemed to run through a roughened canal, and entered the uterine cavity. Upon a careful examination I found that from the new-made os

to the end of the roughened surface, was one and a half inch.

No menstrual fluid flowed out as I had anticipated. During these operations the patient was placed upon small doses of morphia, kept in bed, with a limited diet. There was very little constitutional disturbance—slight acceleration of pulse, and a little lumbar pain.

After an interval of a week the sound was again passed, and revealed a disposition to contraction at the upper portion of the cervical canal. The lateral displacement of the uterus had completely disappeared. The patient was confined to bed, there being a little disposition to metritis. As she strongly objected to the passage of the sound, a fortnight elapsed without a repetition of the examination, when a slight adhesion between the opposing surfaces at the upper portion of the canal was found to exist. This was easily broken down by the sound. Next day I found her suffering from general pelvic peritonitis, fever, dry tongue, great thirst, aching of limbs, knees drawn up, anxious countenance, pulse 120. She was ordered one gr. calomel with quarter gr. opium every three hours, turpentine stupes and then poppyhead fomentations. The following day the pain was less severe, but though she had taken only four grs. of calomel, she was suffering from mercurial dysentery, and constant vomiting; starch and opium enemata, and an effervescing mixture were ordered. An attempted vaginal examination, to ascertain if there was any perimetritis, gave such acute pain that it had to be relinquished. On the fifth day profuse menstruation made its appearance, and coincidently all the symptoms rapidly gave way, and the patient only remained exhausted.

Three days subsequently, however, she was seized in the evening with an acute pain in the back, which kept her awake all night; diarrhæa set in; stools, however, perfectly natural in colour, pulse 120, but no rigors, and tongue clean, with fair appetite. Starch and opium enemata relieved the diarrhæa, and chlorodyne the pain. The following day, finding her much easier, I made a vaginal examination, and found the uterus completely retroflexed, and exquisitely

sensitive to the touch; rectal examination proved it to be much enlarged. Nitrate of potass, morphia, and belladonna gave great relief. Champagne and light diet were ordered.

From this time she steadily improved, and an examination periodically made revealed constantly diminishing tenderness and reduction in size of uterus. There was some thickening in the neighbourhood of left lateral ligament and tenderness of left ovary. Three weeks afterwards the uterus had returned to its normal position. There still remained a decided contraction of the cervical canal, for which small bougies were passed. At the expiration of a month menstruation again appeared, normal in quantity and without pain.

After the lapse of a few weeks, I decided to fully dilate the cervical canal with laminaria tents. This was done thoroughly, and although over two years have elapsed, barely any contraction remains, and menstruation is always normal and free from pain.

A few remarks on the above case are necessary.

Into the question of the best topical application under similar circumstances, I will not enter. In this case the internal administration of medicine failed to give any relief, and indeed, considering the condition of the mucous membrane, it could hardly have been expected. I attribute the failure of the application of the nitrate of silver —which was fused on to a long probe—to the disease being too extensive and too deeply seated to be everywhere reached. In applying the fuming nitric acid, great care was taken to express any superfluous acid, and not more than one and a half inch of the probe was covered with cottonwool, and when introduced through the speculum it was completely hidden from view. I am, therefore, at a loss to account for such prejudicial results ensuing. Had the cervical canal been healthy, such a result would have been probable, but considering it was-like the uterine cavity-diseased throughout, such a result is rare, and can only be ascribed either to an inflammatory action slowly taking place, or to a rapid contraction following upon the artificial dilatation, and possibly increased by reflex action, excited by the application of the acid.

With regard to the operation itself—the lateral displacement of the uterus, and its great tenderness, considerably augmented the difficulties to be overcome. The tissue to be perforated was very dense, and there was always the danger of leaving the median line. The boring motion, though very tedious, had the advantage of breaking up the tissue as the process continued, excavating in fact a canal that would not so easily close as one made by a cutting instrument alone. Furthermore, there was not so much danger in leaving the mesial line, or diverging in a wrong direction any great distance, without its being discovered by the sound. It was while I was using the sound to discover my exact position, and somewhat pressing upward, that the remaining few adhesions gave way, leading me to infer that a kind of net-work of adhesions only existed at the upper extremity of the canal, and which were easily broken down. reason why I did not daily pass a sound or bougie after the opening was completed, was because of the almost insuperable objection of my patient to the whole proceeding. It was only by pointing out the danger she was constantly in so long as the os remained closed that she allowed the operation to be commenced, but well-nigh every day a considerable amount of persuasion had to be employed before operations could be resumed. The acute attack of peritonitis and metritis was rather singular, considering it took place after the completion of the operation; but it had evidently resulted from the mere breaking down of a few recent adhesions by the sound. Doubtless, there was an inflammatory disposition present, which a very little irritation sufficed to convert into an acute inflammatory attack. There is no doubt that the sudden lumbar pain and sympathetic diarrhœa were due to acute retroflexion of the enlarged uterine body, which probably took place during some strained position of the body, though possibly unnoticed at the time. The reabsorption of the menstrual fluid is a point worthy of observation.

The case is another instance of the uncertainty always attendant upon operative interference with the uterus. A serious result ensues when carefully guarded against, and a

somewhat severe operation is passed through with safety, when an almost trivial interference sets up acute inflammation, and places the life of the patient in serious danger.

Finally, there is a question that I have not seen touched upon, though very probably it has been, but has escaped my notice, and that is, what effects do strong caustics applied to the uterine cavity have in producing sterility? In the present instance, although there is a free passage for the spermatic fluid, my patient has never since conceived, although up to that period she had regularly borne children, and is still young enough to be the mother of several more. This is not a solitary instance in my practice, and similar cases have been brought under my notice. What then is the action of strong caustics upon the uterine cavity which produces sterility in a previously fertile female? Is the character of the epithelium permanently changed? Is it no longer vibratile? Are the mucous glands more or less destroyed or is their secretion altered? At the present state of our knowledge I am afraid a satisfactory answer cannot be found. Nevertheless it is imperative that an attempt at a solution should be made if our treatment is to rise above empiricism. But another question arises, and one that in several bearings may be considered to have highly important issues, viz., considering that sterility is sometimes caused by medicaments applied to the internal uterine surface, are we justified in their employment without previously warning our patient and her husband of the possible result of our treatment? In certain cases interests of vast importance depend upon the continuance of the power of conception and its results. Are these not to be taken into consideration when we determine upon a given line of treatment? whilst, on the other hand, what course are we to follow in those obstinate cases of metrorrhagia which so far have resisted all systemic and mild local treatment, for during their continuance conception is rendered impossible? The discussion of these points is highly important, and it would be to our advantage if the subject could be well ventilated at our larger obstetrical Societies, and the collected experience of a large body of the profession be tabulated.

ON AN ABDOMINAL SHIELD FOR IMPROVING THE OBSTETRIC BINDER.

By Francis Vacher, Birkenhead.

ALTHOUGH the utility of the obstetric binder has been disputed by some excellent authorities, few general practitioners would be bold enough to leave their patients wholly without support to the abdominal parietes after parturition. who think lightly of the binder probably began by expecting too much from it; and some at least of those who object to the employment of the binder, base their objections on its being occasionally misapplied. I remember an expression of Sir James Y. Simpson-"Use, but do not abuse, the binder;" and better advice could not be given. Simple as the appliance is, it may be abused; but it is not reasonable on this account to discard it. Indeed, the injury done to a patient by a binder exerting pressure unduly or unevenly is, under the most exceptional circumstances, less serious than the risk incurred by leaving the patient's abdomen unsupported post-partum. That thoughtful writer, Dr. Tyler Smith, whose manual is such a favourite with students and young practitioners, very clearly distinguishes between the possible danger of binding too tightly, and the real danger of dispensing with the binder. "No doubt," he says, "by forcible compression after parturition, injury may be done to the uterus; but I have known cases of mortal fainting occur in patients where no other cause of death could be assigned than the neglect of bandaging. I therefore strongly recommend it." Dr. Meadows, the author of another popular manual, gives this plain direction: "Support with a binder for at least a fortnight;" and Dr. Conquest, whose "Outlines" served as a handbook to an earlier generation of students, insists that "it is of great moment that a bandage be fixed over the uterine region." Dr. Rigby, too, for many years a teacher in the provinces, orders "a broad bandage pinned firmly round the abdomen to give it the necessary degree of support." Nor is the practice different at one of the best

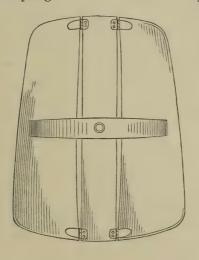
clinical schools in Ireland. According to Dr. McClintock, "in the Dublin Lying-in Hospital the binder has always been regarded as an indispensable part of the treatment, being put on by the doctor a few minutes after the delivery of the child or placenta." Why some of the older writers, such as Smellie, Denman, and Burns, did not recommend the binder, is difficult to understand. Smellie, indeed, did recommend a sort of modified binder, but it scarcely deserves the name; he had "the belly kept firm with the broad headband of the skirt, the ends of which are to be pinned across each other."

It would be easy to quote other authors in favour of the binder, as it would be easy to quote authors of perhaps equal authority who ignore or reject it; but I prefer to save my reader's time and my own. Apart from all professional opinions on the subject, it is an undeniable fact that patients themselves are almost without exception believers in the virtues of bandaging. "Les femmes," says Cazeaux, "attachent, pour la plupart, une grande importance à cette précaution, qui, dans leur idée, doit les mettre à l'abri des rides et des plis qui existent après l'accouchement sur la peau du ventre;" and certainly Englishwomen are as prejudiced as Frenchwomen in this respect, and very few patients will leave the accoucheur any choice in the matter. The question therefore with most practitioners is not, Binder or no binder? but, What is the safest and most efficient kind of binder?

It has always been my practice to use a binder, fastening it on and readjusting it from time to time when necessary myself. Up till recently I have been contented with whatever the nurse or patient had provided, or improvised a binder out of a bolster-slip, or any piece of strong cotton cloth coming to hand. Such a binder is, however, at best a primitive appliance, and ill suited to maintain the steady, equal pressure required, even if carefully shaped so as to fit closely at hips and waist. In stout subjects the abdominal fat keeps the bandage well off the uterus, and in thin subjects the binder, stretched tightly across from the anterior superior

spine of the ilium on one side, to the anterior superior spine on the other, exerts pressure upon a small portion of the front of the uterus only. Perhaps no better proof of the inefficiency of the binder is possible than is afforded by the numerous rather clumsy contrivances suggested for improving it when there is real danger. Thus Leishman says:-" If there is any tendency to hæmorrhage, it is usual to fold a towel in the form of a pad, and place it beneath the bandage over the uterus, so as to exercise more direct pressure over that organ." Others in such cases wrap up a book or other hard substance in the binder, or insert a saucer beneath it. I have myself, on several occasions, found a saucer useful. If the rim be kept off the pubes by means of a small suprapubic pad, the saucer being thus tilted over the fundus, it does its work fairly well. What is wanted, however, is that the uterus shall be firmly grasped, and this cannot be done by either pad or saucer. The practitioner, with his hand on the abdomen, readily takes a firm hold of the uterus, but when the organ is relaxed and atonic, he dare not remove his hand till he is quite wearied out. The desideratum, then, is a mechanical apparatus capable of seizing and retaining its hold of the uterus like a human hand. Surely such an apparatus is not difficult to plan. My first idea was that a horseshoe-shaped water-cushion might answer the purpose. It was to be carefully placed in position, the binder fastened over it, and a sufficient quantity of water then pumped in. This, with a superimposed shield of metal or wood, I still think, would greatly improve the ordinary binder. Yet it could not grasp the uterus like a hand, and so did not fulfil the required conditions. January, 1877, however, I had an opportunity of calling on Messrs. Weiss & Son, the well-known instrument makers, and, with their assistance, the problem was solved. It was decided that the object sought would be best attained by an abdominal shield, divided into three parts lengthwise, and connected by hinges, the two lateral pieces to be pressed down on the right and left of the uterus by means of a strong spring screwed to the central piece. Accordingly, a shield was made as figured in the illustration, which is drawn to $\frac{1}{4}$ scale linear. The measurements are:—

Length							$9\frac{1}{2}$	inches.
Breadth	of	centra	l piece	2			$I\frac{1}{2}$,,
Breadth								"
Breadth								"
Length	of	spring					63	





The whole shield is slightly arched from above downwards, the arch having a rise of barely half an inch.

The shield is made of stout tinned iron, carefully turned over wire at the borders. The spring is of steel, the ends being provided with small rollers. The shield is lined with an india-rubber air-pad, which projects a little beyond the margin all round.

The shield and pad are covered with linen, or placed in a

linen bag, which, if two be provided, can be washed as occasion requires. The covering I have been using is the front portion of a Salmon's obstetric binder, the stiffener being removed and a small hole cut in the centre, to allow the screw to project. The shield thus covered is placed in position, and the back portion of Salmon's binder hooked up to it on either side, after which the spring is adjusted and screwed down by means of a small brass nut. When a shaped binder is not used, the bolster-slip or towel, or whatever serves the purpose, is passed round under the patient and fastened with safety pins to the covering of the shield. I may add that the back portion of the binder is greatly improved by two whalebone stiffeners, sewed in about seven inches apart; otherwise it tends to run up and form plaits above the crests of the ilia, even though the T bandage be employed.

In drawing attention to the lateral pieces of the shield being wider at one end than the other, I used the words top and bottom merely with reference to the illustration. When the apparatus is adjusted, the wide end may be directed towards the pubes, or *vice versâ*. The object is to grasp the uterus, and the special merit of having an instrument with a span about two inches greater at one end than the other, is that it may adapt itself to the varying conditions of practice.

One manifest advantage this shield has, is that it provides for pressure being applied to the uterus with a delicacy equalled only by the human hand. A few turns of the nut upon the screw relieve or increase the pressure at will, while the elastic medium through which the force is transmitted enables very considerable pressure to be borne without the infliction of pain on the patient, or injury to the uterus.

If, after a day or two, it be thought desirable to remove the lateral pressure altogether, the brass nut is screwed off, and the spring laid on one side. No rearrangement of the binder is necessary. The uterus and adjacent tissues remain covered with an air-cushion, the density of which may be regulated with ease, affording an amount of comfort sensitive patients will not fail to appreciate.

Abstracts of Societies' Proceedings.

OBSTETRICAL SOCIETY OF (LONDON.

Meeting, December 4th, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

The following were elected Fellows of the Society:—W. J. Vereker Bindon, M.D., Benjamin Browning, Arthur Flint (Westgateon-Sea), Rustonjee Naservangee Khory, M.D. (Bombay), Walter C. James, M.D., James C. P. Muir, Frederick Nicholls, and Albert C. Butter Smyth (Brighton).

Placenta of Twins.

Dr. Edis exhibited the placenta from a case of twins which were prematurely expelled about the fifth month. It was small, flaccid, much firmer than usual, very thin, and had several curious cup-like cavities distributed over the surface, containing firm blood clots about the size of hazel nuts. There was a history of syphilis in the husband, and the patient had had three previous miscarriages. He also showed another placenta from a case of twins prematurely expelled about the sixth month where there was an enormous amount of liquor amnii, as far as could be judged, about two gallons. There were two distinct amniotic sacs, the first containing at least double the quantity of the second. No history of syphilis was detected. The children were very small. One was male, the other female.

Medullary Sarcoma of Cervix Uteri.

Dr. Galabin showed microscopic sections of a medullary sarcoma of the cervix, a rare form of growth in that situation. The growth had all the clinical characters of cancer in the early stage, and bled readily on touching; but the uterus was quite movable, and there was scarcely any ulceration. On removal a milky juice could be scraped from the cut surface containing small cells in profusion. The squamous epithelium was displaced for about a quarter of an inch by the extension of a surface covered by cylindrical epithelium, beneath which were numerous proliferating glands. The main part of the cervix was infiltrated by a tissue similar to that intervening between the proliferating glands, and consisting of very small round cells in the meshes of a distinct interlacing stroma.

Abnormal Placenta.

Dr. Godson showed a placenta to which the umbilical vessels were peculiarly distributed, the condition known as *insertio velementosa*.

There were also two separate placentæ very small, placentæ succenturiæ. The specimen had no clinical interest.

Adjourned discussion on Dr. Roper's paper.

After a short abstract of this paper on "Anteflexion" had been

read, the discussion was resumed by

Dr. Bantock, who deprecated the introduction of new names without sufficient warrant. He failed to see what information is conveyed by the term "antecurvature," which is not already signified by that of "anteflexion." He did not share Dr. Roper's views as to the characters which serve to establish the differential diagnosis between congenital and acquired anteflexions. Anteflexion was most commonly found in a virgin or nulliparous woman, and of all causes of dysmenorrhoea was by far the most frequent. In a sterile woman the symptoms were slight at first and very gradually increased. There was retardation of the menstrual flow, then swelling of the mucous membrane producing a constriction by which the flow was more and more impeded. Pain gradually increased from the time of marriage, and there was also increasing dysparennia. The menstrual fluid at first was normal, but afterwards became like broken down clot, the uterine cavity being distended. The sound showed the point of anteflexion to be about the internal os. The condition was thus in one sense congenital, but involved many acquired features in addition. The view that there is thinning of the uterine wall on the concave side of the flexion was now exploded. The specimen shown that evening demonstrated thickening on the concave There was no evidence of any abnormal softening of the uterus as a cause of flexion, as maintained by Dr. Graily Hewitt. He did not support the author as to the connexions of congenital anteflexion with a masculine pelvis or with hirsute development. After dwelling on the value of the intra-uterine stem in the treatment of these displacements he expressed his opinion that Dr. Roper was too exclusive in giving his undivided support to the treatment of the dysmenorrhœa by means of graduated bougies. He believed the operation of division of the cervix, instead of being dangerous and unwarrantable, to be one to be performed with as much impunity as any operation. He referred to division bilaterally, that is to say, partial division of the whole length of the cervix and on both sides; the treatment after the operation being of great importance. He formerly inserted cotton-wool with perchloride of iron, but now used only a tampon with glycerine, and found that any after ill effects were thus avoided. It was an erroneous principle to divide the anterior convex wall of the cervical cord. Muscular fibres around the internal os could not be divided, for there were none. He considered vaginal pessaries entirely useless, for they only added a version to the flexion.

To sum up, he would at an early period use the sound, tent, or bougie; at a later stage the intra-uterine stem, but when the dysmenorrhoea is very severe and the flexion very acute, and there is evidence from physical signs that there is constriction of the internal os, then he would have recourse to the operation of the division of the cervix followed by the intra-uterine stem, inserted after the incision had healed.

Dr. WYNN WILLIAMS did not believe in the existence of an internal os, he considered the diameter of the uterine canal of the same calibre throughout, the point of juncture between the body neck being nothing more than an isthmus. He strongly deprecated division of the cervix, an operation from which many deaths had resulted. He had found the treatment of anteflexion by bougies both tedious and unsatisfactory, while he had found great success follow the insertion of a vulcanite stem supported on an india-rubber shield. He had thus treated over seventy of the out-patients at the Samaritan Hospital, and never found the slightest inconvenience caused by the pessary. The patients wore it six or seven months, and were able to travel or dance without discomfort. In many cases pregnancy had followed after the use of the stem. He had lately had a letter from a lady, thanking him for enabling her to have a child after nine years' sterility. In placing the instrument the uterus was first straightened by the sound, and the stem then might generally be slipped in before the flexion returned. If necessary, the stem could be curved. He never failed in passing the sound. His pessary was made by Mr. Russell, of George-street. He had treated by this method a case of epilepsy, which he found associated with acute anteflexion, and a complete cure resulted. In another case of paraplegia associated with anæsthesia, which had been treated for spinal disease, he found an acute anteflexion to exist. He inserted a stem pessary, and in two weeks the patient was able to walk, and soon recovered perfectly. Replying to Dr. Daly, he said that he had never known severe pain, peritonitis, or convulsions, to be produced by the pessary.

Dr. Dalv said that he had met with a case in which Dr. Wynn Williams had introduced one of his pessaries, and the patient had

severe convulsions the next day.

Dr. Lang testified to the success obtained by Dr. Wynn Williams in the case of epilepsy, the patient having been previously under his care.

Dr. SAVAGE said that congenital anteflexion was a common condition, and one much overlooked in practice. There was also a congenital retroversion, often associated with adhesions to the rectum, again there was a lateral inclination of the uterus, having a small body but well developed neck. Cases like these could not be cured by the manipulations of any Dr. Wynn Williams. So far he agreed with the author, but in every other respect he totally disagreed with him. All sorts of displacement were also very frequently acquired. Next came the question of safety. Though he seldom now attended the Society's meetings, this was about the dozenth time this question had come up when he had been present. It was rather an exciting

subject. Probably every man in the room had some invention for its treatment either in esse or in posse. Some years ago he had brought before the Society nine cases of deaths, seven from the use of the hysterotomy, two from that of the intra-uterine stem. instrument was not that of Dr. Wynn Williams, which was certainly a very clever arrangement. In two of the fatal cases, the cervix had been incised for sterility, and the patient sent home afterwards. was disposed to agree with Goodell and others, who said that they obtained permanent enlargement of the cervical canal by gradual dilatations and were afraid of the use of stems.

Dr. Routh discovered nothing new in Dr. Roper's division of anteflexions into congenital and acquired. It was indubitable that the grand cause of sterility among women was anteflexion; to cure this, therefore, was to cure sterility. It had been stated that stems were dangerous; this might be true in regard to the antiquated stiff long instruments, but, if the new shorter ball and socket stems were used with caution, no greater error could be asserted. He had employed these very frequently, and had obtained the most satisfactory results therefrom. In his own instrument which he now showed, the stem was articulated to a crossbar attached to a Hodge's pessary, its position with regard to which could be adjusted by a screw. No bad effects followed, if inflammation were reduced previously to the insertion of the stem. He had not himself seen any case of cellulitis from its use, but had heard of one death, in a patient who went away to another hospital. From incisions by the hysterotome he had seen three deaths: two in his own practice, and had heard of others, even under Sir James Simpson. We were not therefore justified in operating wholesale, but this treatment had the advantage of depleting the uterus. The two-bladed hysterotome was perhaps safest, as it could be better regulated. Dr. Roper's plan of dilatation by graduated bougies was useless unless it were repeated very frequently, and this he thought objectionable.

Dr. PLAYFAIR expressed his regret that such differences of opinion should exist in points of such practical consequence. One high authority thought that all uterine symptoms were due to mechanical conditions; another found evidence only of the abuse of mechanical treatment, and had his time taken up in removing pessaries introduced by others. The truth lay in the medium. He considered it as great a mistake to decry mechanical treatment, as it is to rely too exclusively upon it. He was satisfied that there are a large number of cases both of retro and anteflexions which are quite unmanageable except by mechanical supports, and which are readily and permanently relieved by the judicious use of pessaries. There are many other cases in which some morbid condition is associated with the flexion, such as endometritis or areolar hyperplasia, in which, although mechanical support may give temporary relief, it cannot effect a permanent cure, and to rely on it alone is a fatal mistake. Again, there are some cases in which the uterus is totally unable to bear

mechanical treatment, and in which such is altogether inadmissible. There is also a third class of case, how numerous no one can say, but certainly not very rare, in which the uterus is most abnormally twisted without any kind of evil resulting. If this more broad view of uterine disease were taken, he could not but think that the somewhat humiliating differences of opinion which the opponents of gynecology are apt to sneer at would no longer exist. After trying many forms of anteflexion pessary, he had come to the conclusion that Hewitt's cradle pessary was the best, but it still left much to be desired, and an anteflexion pessary as efficient and as generally useful as the Hodge is found to be in retroflexion is still a great desideratum. Although he used a stem now and again in intractable cases, he never did so without fear and trembling, and never unless the patient was under constant supervision.

Dr. Rogers had many years ago given the dilating bougies a fair trial in cases of severe dysmenorrhoea, but with indifferent success, for though benefit was obtained for a time or two, it was not permanent. He then tried the hysterotome, but with anxiety and caution, and here he obtained very great success; in almost every case relief was permanent, and many became mothers after years of sterility. Out of some hundreds of cases he had only lost one patient, death resulting from peritonitis. During the last two years he had used Dr. Williams's stem pessary with very good results. He always applied leeches to the cervix on two occasions before he inserted the pessary, to allay inflammation.

Dr. Heywood Smith showed a section of an anteflexed uterus which he had made, from which it would be seen that there was scarcely any difference in thickness in the anterior and posterior walls. He considered that congenital anteflexion was the most frequent source of dysmenorrhoea and sterility. For the treatment of this he was of opinion that dilatation only afforded temporary relief. He was in favour of incision to a slight extent, combined with forcible dilatation.

The President said that since he had ceased to hold any hospital appointment, his opportunities for comparing the utility of different forms of pessaries or other instruments for the support of the uterus had, of course, been limited. In any case, however, the first question was whether the symptoms of which a patient complained were due to the existence of a flexion of the uterus, or whether the uterine flexion was an accidental complication in itself, producing no symptom whatever. He agreed entirely with Dr. Playfair as to the importance of determining the nature of a flexion, for in those cases, and they were not very rare, in which the flexion was associated with an undeveloped state of the uterus, he doubted much whether anything was gained by the mere removal of the flexion, while the apparent benefit obtained in such cases by the removal of the flexion, or the employment of intra-uterine supports, is probably not due to the merely mechanical action of the instrument, but to a sort of

stimulating influence upon the uterine tissue generally, such for instance as gives rise to the hypertrophy of the uterine tissue, when a fibroid is developed in the substance of the organ. With reference to the case of alleged epilepsy, referred to by Dr. Wynn Williams as having been cured by the reposition of a flexed uterus, the case appeared to him to be wanting in all those exact and minute details which are absolutely necessary to justify any positive conclusions. In former days he had seen much suffering and grave inflammatory mischief produced by intra-uterine stems. The recent improvements by which they were made shorter and movable, instead of fixed, might probably have lessened both risks, but he could not but consider the condition of any patient wearing an intra-uterine stem as one calling for close and careful watching. The division of the cervix as high as the internal os also could not be performed without some risk. The uterus should not be regarded as so much dead matter, but it must be remembered that it has highly extended sympathies. As to the majority of flexions, he agreed with the opinion of Scanzoni, that it was not the flexion itself which caused symptoms, but rather supervening congestion. The displacement, however, might be the source of great trouble. He thought the right principle was to deal first with the morbid conditions, and afterwards treat the displacement, if necessary, not setting down all symptoms to the flexion, which might only be an accidental concomitant.

OBSTETRICAL SOCIETY OF EDINBURGH.

Mecting, Wednesday, June 12th, 1878. Dr. Wilson, President, in the Chair.

Professor Simpson showed a preparation of great interest—viz., the "ovaries" removed from a young lady, aged thirty-five, who, from the beginning of her menstrual life, had been a sufferer from dysmenorrhea. She had been for long under the care of the late Mr. Carmichael, and at that time was frequently seen by Sir James Simpson, who divided the cervix, but without any permanent relief. When she came under his (Dr. Simpson's) care, he found her suffering from piles; and, thinking that these might be keeping up irritation, he tied them. He got a great fright, as during the operation she very nearly died from the effects of chloroform. Still the dysmenorrhœa continued, and made her life miserable. Every month she had one week of agony, one week of debility and weakness following, and another in which she dreaded the recurrence of the attack. In this way she had only one week every month free from pain. A year or two ago he told her that, in America, they were bringing on the menopause by removal of the ovaries. In March, she asked him again about this; and, while he said it could be done, he rather shirked it, so that the patient remarked one day that she thought he was funking it now. Battey, the originator of the operation, had at first made a mistake in operating vaginally, and failed in some cases to remove all the ovaries. He had operated in his case suprapubically, chiefly because the left ovary was adherent. On Monday last, with the assistance of Dr. Berryman, Dr. Croom, Dr. Hart, and Mr. A. H. Barbour, he removed both ovaries and part of the left Fallopian tube. So far, there had been no reaction. Her temperature had not risen above 99° 8 F., and her pulse was only 96, so that the ultimate prognosis was favourable. He intended to record the history of the case more in detail after sufficient time should have passed to observe the result of the operation. Meantime he thought the Fellows would be interested in seeing the fresh preparation.

Professor SIMPSON showed an "Epithelioma of the Cervix Uteri," removed by the galvano-caustic wire. At the time of operation there was free bleeding. He at first thought of pulling open the parts and exposing the bleeding surface; but as he knew the septum separating the anterior fornix-vaginæ from the peritoneum was very thin, and might have been torn through, he refrained from doing so, and therefore applied a plug soaked in perchloride of iron. This was a mistake, as the patient died on the fourth day, and on post-mortem examination the cause of death was found to be general peritonitis, mainly in the pelvis. The cause of this was very easily seen to be due to the perchloride of iron corroding through the thin septum into

the peritoneum.

Professor SIMPSON exhibited two small, round-celled, "Sarcomatous Tumours" from the vagina. Although not imposing in appearance, they were, so far as he knew, unique. Cases were not unknown of sarcoma vaginæ occurring as a secondary affection, where the disease had first appeared in the uterus. He had himself had a case where the vaginal wall had probably been injured during the operation for the removal of a uterine sarcoma, and when the tumour was reproduced in the uterus, it was found grafted also into the vaginal wall. But in the patient from whom the present preparations were removed the uterus was quite healthy.

Dr. CROOM showed a "Pregnant Uterus" of about four and a half

months. The patient had died of uræmic convulsions.

Dr. Croom exhibited a preparation of "Twins." When he first saw the mother he found one feetus expelled, dead and shrivelled; a second and larger feetus was afterwards born healthy. The placentæ were separate, united only by a thin fibrous septum; that of the second feetus was healthy, the other was fatty.

Dr. CROOM showed the "Labia Minora" of a patient which he had removed for hypertrophy and elongation causing the patient great

discomfort from frequent attacks of inflammation.

Dr. CRAIG exhibited the "Placentæ" (separate) from a case of twins; the separate bags of membranes being united in the usual manner.

Dr. Young mentioned a case of "Peculiar Presentation" he had met with, viz., arm over head and prolapse of the cord. The child was born dead. When first called to the patient the liquor amnii had escaped, the cord was prolapsed, and the right arm across the parietal bones. He endeavoured to repone the funis, and turned the child without difficulty under chloroform. The child was dead; the mother made a good recovery.

Dr. James Carmichael exhibited Thomas's "Dull Wire Curette," as recently described by Dr. Paul F. Mundé, of New York, in a paper communicated to the Society. He had lately used it with very satisfactory results in a case of retained placental fragments after abortion. He alluded to the necessity of operating exactly in the manner described in Dr. Mundé's paper—patient on left side, cervix exposed by Sim's speculum, and uterus drawn down by tenaculum

attached to the anterior lip of the cervix.

Professor SIMPSON showed the preparation from a case of "Pelvic Hæmatocele" which he had had under observation in his ward in the Infirmary. The patient, a quadroon, aged twenty-one, puella publica, had had a child nine months previously to her admission, which only lived three hours. She had been syphilitic for several years. Menstruation was irregular; but she had missed her period so distinctly four months before admission that she thought she might be again pregnant. She had, however, irregular discharges of blood, and began suddenly in the end of February to have intense pain in the abdomen, nausea, and vomiting, with alternate heat and chills. She was admitted on the 9th of March with great abdominal tenderness and tympanitis, and a dull swelling, rising to within an inch of the umbilicus; vagina hot and tender; cervix uteri low, and os patulous; all the vaginal roof filled in with a hard mass, which was continuous with the supra-pubic swelling, and in which the outlines of the uterus could not be felt. The whole was very sensitive. Pulse 126; temperature 103°. A sedative and expectant treatment had been adopted. The swelling had become very much reduced and the general condition improved, till on the 1st of April the patient had an attack of pneumonia, after which she grew rapidly worse, and after passing some bloody stool on two successive days, she died on the 15th of April.

At the autopsy there had been found very extensive peritonitis, the inflammatory deposit on every abdominal organ; the peritoneal surface stained of a dark colour as high as the umbilicus in front and up to the kidneys behind; the intestinal coils matted together; a perforation near the lower end of the small intestine; a quantity of grumous blood in the cyst in the right lumbar region, and a still larger quantity in the pelvic cavity, which was a mass of putrilage, with the outlines of the various organs destroyed and decomposing. No trace of an ovum could be found, but the right ovary was enlarged, and presented a cavity that might hold a filbert; and at the right side of the fundus uteri there was a perforation through

the walls, wide as a shilling, on the peritoneal surface, but narrowing towards the cavity of the uterus till it was just sufficient to pass a sound.

It was the first fatal case he had seen in the ward, all the others

having recovered, usually under an expectant treatment.

Dr. Burn had seen a few such cases. One at present he was attending, in a young unmarried patient. In married women the fixation of the uterus which generally resulted, often in his experience, predisposed to abortion.

Dr. Croom thought two points interesting in the cases, the very large quantity of blood effused and its rapid absorption, as well as the

extensive hæmorrhage from the uterus.

Dr. James Carmichael mentioned a case which Professor Simpson had seen with him. The patient, aged nineteen, unmarried, died of peritonitis during the menstrual period, a large quantity of blood having evidently escaped into the peritoneum.

Dr. Young mentioned a case of hæmatocele with large bleeding.

Recovery was very slow; treatment expectant.

Notes of Three Cases of Accidental Hæmorrhage, with Remarks. By Dr. C. E. Underhill.

I have put together the notes of the three cases which form the substance of this paper, because the subject is one which has not been brought under the notice of the Society for some time past. We have had many debates on post-partum hæmorrhage and on placenta prævia; none of late years on accidental hæmorrhage, so-called.

The cases have this at least of interest, that, though the anatomical condition which caused the hæmorrhage was the same in all of them, namely, premature separation of part of the placenta, the exciting

cause of this separation was different in each.

CASE I.—Saccated Uterus. Mrs. C., aged twenty-five, pregnant nearly eight months with her third child, sent for me at 10 A.M. on 1st August, 1873. She said she had had a severe flooding during the night. She has had similar floodings four times during the present

pregnancy, the first of which occurred at the tenth week.

The patient was pale and anæmic, and the bleeding had almost or altogether ceased. Pains occurred at long intervals. On examining the abdomen, the uterus was felt to be about the size of a seventhmonth pregnancy; it felt contracted and hard. In the right iliac region was an offshoot or projection from the body of the uterus, which gave the sensation of being about the size of a fœtal head, but which increased and diminished in size at times. This offshoot or tumour was continuous with the uterine tumour, but their most prominent parts were separated by a shallow sulcus. The tumour was rather soft, and at first its physical characters, coupled with the fact of recurrent hæmorrhages during pregnancy, made me suspect it

was a fibrous tumour, softened and enlarged along with the pregnant uterus. The patient complained of feeling pain in the tumour occasionally. Vaginal examination showed the os to be slightly dilated, and the membranes entire. No hæmorrhage. The hæmorrhage returned in the afternoon, and at 7 P.M. I found the os well dilated, the membranes entire, and some bleeding. I ruptured the membranes, and, the pains being regular and quick, a small child was soon born; it was at about the eight month. It required great care and warmth, but was alive a month later.

On placing my hand upon the uterus after the child was born, I distinctly felt the tumour above-mentioned contracting and expelling the placenta, and was quite satisfied that it had been the seat of the placenta. Any doubt I might have had on this matter was set at rest by the appearance of the placenta itself. It was arched out into a cup shape, the fœtal surface forming the concave part of the cup. The rim was so firm that, on placing it upon the table, the placenta retained its cupped shape—the cord was attached to the bottom of the cup. The cupping was very considerable, and the whole placenta may be not inaptly compared to a skull-cap turned inside out. The patient made an excellent recovery.

I regret very much that the notes I preserved of this case are so very imperfect. My impression is that very shortly after labour the tumour became almost entirely identified with the ordinary outline of the uterus, but I have no note as to that point. Mrs. C. subsequently had another child at the full time, and nothing unusual was noticed by her medical attendant, to whom I had communicated the unusual circumstances of the present labour. She had no return of the hæmorrhage during the course of the subsequent pregnancy or at the

time of labour.

Remarks.—The amount of flooding in this case was not sufficient to cause any alarm, except as occurring in a pale and delicate woman. It required no treatment further than the rupture of the membranes. The condition of the uterus, however, which caused the flooding seems to be of great rarity. A case very similar to mine is described by Dr. Matthews Duncan in his "Researches in Obstetrics," page 441, 1st edition, where the condition was associated with vagina duplex. In his case, the sac containing the placenta appears to have . been rather farther removed from the uterus than in mine. He has called the condition "saccated uterus," and gives references to other authors who treat of this exceedingly rare malformation. Dr. Duncan considers it an open question whether the saccated condition indicates a tendency to duplicity of the uterus, or whether it is one of "those curious cases of gestation, in which the placenta has been developed in a Fallopian tube, while the fœtus grew in its normal site, or in which some other like anomaly has been represented as occurring." A condition more like the latter of these two hypotheses seems to have been the state of matters in the present case, because the tumour, to the best of my belief, disappeared after the labour was over, and because it was not present in a subsequent pregnancy, when it was specially looked for by the gentleman in charge of the case. There is no mention made of hæmorrhage in Dr. Duncan's case.

That the sac was formed of contractile tissue is quite certain. The patient herself was aware that it changed in size and consistence at times during pregnancy, and I felt the contractions during labour and at the expulsion of the placenta. The hæmorrhage was doubtless due to some irregular contractions of this abnormal sac causing rupture of utero-placental vessels, and probably some separation of the placenta. I have not noted whether any traces could be found in the placenta of old hæmorrhagic infarcti.

Case II.—Traumatic. I was called to this case by Dr. J. R. Morison, then resident surgeon at the Cowgate Dispensary, who thought he had to deal with a case of placenta prævia. He gave

me the following history:-

Mrs. M., aged thirty-two, in the ninth month of her eighth pregnancy, was engaged about mid-day (17th July, 1874) hanging clothes to dry out of her window in the Cowgate. To do this she leaned upon the window sill, so that most of her weight came upon the pregnant uterus. She is a large and powerful woman, and correspondingly heavy. While doing this she began to flood violently, and before long fainted. This checked the severity of the flow, but it did not stop entirely. I did not see her until five o'clock P.M., when I found her considerably blanched, with a quick and weak pulse, and with bleeding still going on slowly. The os uteri was very high up and dilated to the size of a florin, the head presented, the membranes were entire. The fœtal heart could not be heard; the uterus was bulky and harder than usual. Chloroform was given, and I passed my hand into the vagina, and with three fingers in the uterus endeavoured to turn by the bipolar method. This proved to be exceedingly difficult; but at last I did succeed in getting down a foot. A loop of the cord came down with the foot; it was pulseless and flaccid. A dead male child, well-grown and healthy-looking, was born at seven P.M. The placenta was followed by a very large quantity of clots, which had no doubt separated a large portion of it from the uterine wall. The patient made a slow but perfect recovery.

Remarks.—In this case the cause of the accident was clearly traumatic. The pressure upon the uterus, caused by almost the whole weight of a heavy body being thrown upon it, had separated a portion of the placenta; the existing hæmorrhage, which soon made its way externally, increased the separation, and the clots which formed caused the separation to extend still further. Had the placenta been very firmly attached all round its margin we might in all probability have had a case of concealed hæmorrhage, with very possibly a fatal issue; for, had the blood been prevented from escaping, the clots which were forming would have still further

detached the placenta, and might easily have made the separation complete. As it was, the separation was sufficiently extensive to cause the death of the child, and to reduce the mother to a serious but not excessive state of anæmia. On my first examination I was very nearly led to agree with Dr. Morison's diagnosis, and to believe the case was one of placenta prævia. The thickness and roughness of the membranes, with small clots adhering to them, gave a very deceptive feel, and it was not until I had made a very careful examination that I made out the true state of matters.

The difficulty of performing bipolar version was much greater in this case than in any other in which I have adopted this method of turning, and was due, no doubt, to the large clots lying behind the placenta preventing the fœtus from being readily pushed round. In two cases in which I have used this method within the last few weeks-once for placenta prævia, and once for contracted pelvisnothing could be more satisfactory than the ease and rapidity with which the position of the child was altered and the version completed.

I shall defer the consideration of the treatment adopted for some remarks at the end of the paper. In notes taken at the time, I have remarked that the uterus lay quite on the left side of the body, con-

trary to the usual right-sided obliquity.

CASE III.—Diseased Placenta.—Mrs. T., a delicate and very anæmic woman, aged twenty-four, was taken in labour with her first child on 23d November, 1874. She was at the full time. She was seen by the late Dr. Myrtle at five o'clock. He found some hæmorrhage going on, but as it was but slight he left. At 9.30, as Dr. M. was unable to go back himself, I was sent for, and found there had been considerable bleeding going on, and that the woman was much reduced in strength. The head was low in the pelvis, the membranes entire, and the os dilating. I ruptured the membranes and gave a dose of ergot. A small but mature and living male child was born soon afterwards. The cord, which was twisted twice round the neck, could not be felt to pulsate when the head was born. The child. which was a meagre, miserable infant, showed symptoms in a fortnight of congenital syphilis, and died of that disease on 3rd January, 1875.

The placenta came away without difficulty. It was in a highly diseased and abnormal condition. Of irregular fiddle shape, it measured eight inches in the longest diameter by seven in the greatest transverse diameter, and three at the narrowest part. It was made up of two principal large and prominent cotyledons, opposite the larger of which the cord was inserted. It varied greatly in thickness in different parts, big patches here and there being thin, yellow, fatty, and hard. The smaller cotyledon was the thicker of the two, and at one point near the edge there had been a tear in the placental tissue, which was at this spot soft and œdematous, and a separation of the placenta from the uterine wall. The tear had taken place close

under the membranes, and some small clots were found in this position. The hæmorrhage appears to have come from the separated and torn portion and the adjacent uterine wall, and to have had its exciting cause in the disease of the placental tissue. I had intended to have made a careful microscopical examination of this tissue, but

the placenta was unfortunately destroyed.

I ascertained that this woman had suffered much from palpitation and anæmia for a year or two before the birth of the child; but there was no heart disease. I could obtain no history of a syphilitic attack, either primary or secondary, nor were any traces of the disease to be found upon her. She has since borne a well-grown healthy child, which has, up to the age of five months, shown no symptom of disease. She has aborted once between these two pregnancies, but I was then away from home and did not see the aborted ovum.

Remarks.—Accidental hæmorrhage is not very common, and in the majority of cases not very severe. In only one, No. 2, of the instances just related was it so severe as to give rise to much anxiety. Their main interest lies in the fact that they illustrate three of the causes of ante-partum separation of placenta; No. 1, irregular formation of uterine body; No. 2, external violence; and No. 3, disease of placenta, in all probability syphilitic. So extensive was the disease that I was surprised to find that it was able to support a living child. Possibly in the third case the very anæmic state in which the patient had been for several years may have given an additional tendency to the occurrence of hæmorrhage. Case I also occurred in a very delicate, anæmic person. Many other causes of accidental hæmorrhage are given by authors, the most prominent, after traumatic causes, being sudden and excessive emotion, diseased general states, and local uterine disease. Other cases occur in which it is difficult or impossible to find any cause. Anæmia is undoubtedly a predisposing cause.

I have not made any mention in relating the cases as to whether the hæmorrhage occurred with or between the pains, because, firstly, I have preserved no note of this point; and, secondly, because it seems to me to be of no great importance, diagnostic or otherwise,

and frequently to have had too much value attached to it.

As regards the treatment of accidental hæmorrhage, there is now a pretty general consensus of opinion that rupture of the membranes is in most cases sufficient to check the flow, assisted, if necessary, with a dose of ergot of rye. Should the hæmorrhage still continue with severity, the uterus is to be emptied as quickly as possible, either by turning or by rapid dilatation and the application of the forceps, and the necessary uterine contraction secured. The elder Rigby, in his classical work, was the first to bring prominently before the profession in this country the distinction between hæmorrhage occurring when the placenta is in a normal situation and that dependent on placenta prævia. He insists strongly on the point, that in the former case rupture of the membranes is the only

necessary treatment, and that after that is done, the case may, for the most part, safely be left to nature; and he adds that, in the numerous cases which fell under his notice, he never had occasion to turn or adopt any further treatment. He supports this view by the evidence of Merriman, who states that, in upwards of thirty cases of accidental hæmorrhage which he had observed, after rupture of the membranes the hæmorrhage had either ceased or been so far diminished as to secure the safety of the patient; and yet, he adds, there were some among these cases where the hæmorrhage was sufficiently Even Rigby, however, admits that cases may occur where, for instance, the separation of the placenta has been produced by great violence done to the abdomen, and where the hæmorrhage is so profuse that nothing but a speedy delivery by art will put a stop Such a case, I conceive, was my second one, where the separation had been extensive, and where the large clots which lay between the placenta and the uterine wall would probably have proved an obstacle sufficient to prevent uterine contraction from being strong enough to stop the flow. I think, therefore, that in that case the treatment adopted was fully justified, though, were the same circumstances to come before me now, I should probably be inclined to try the effect of rupturing the membranes before proceeding to adopt any other measure.

Some, however, recommend the use of the tampon—Dugés among the earlier authors, and Spiegelberg among the later—advising this practice. The older authors who held this view based it on the notion that the pregnant uterus was quite filled by its natural contents, and could not be further distended. This was the opinion of Dewees, Capuron, Dugés, and others. How far from the truth it is has been frequently shown by the numerous cases now on record of death from concealed hæmorrhage, and by the flaccid appearance presented on dissection by the undelivered gravid uterus in the later months of pregnancy. On this point William Hunter says (see Ingleby, A Practical Treatise on Uterine Hæmorrhage, p. 132):—"We are apt to consider the uterus when containing the fœtus and membranes as being tight and distended, so as to preserve its shape when taken out of the body; sometimes it may be so, but in the state in which it generally is at the ninth month, it will hold a pint, a quart, or now and then two quarts, or even more. It is rather in a loose state, not quite tight, and only about three parts full." I was much struck with the flaccidity of the uterus of a woman who had died suddenly during labour, when the os was more than half dilated, upon whom I made a post-mortem some years ago. In recommending the vaginal plug for the severer cases, Spiegelberg directs us at the same time, by the hand externally, to keep careful watch over the body of the uterus, so as to control or avoid the occurrence of internal hæmorrhage. The grounds on which he advises the plug are, that its use generally sets the pains agoing, and they are the surest means of stopping the hæmorrhage; for the same reason one ought, he

says, if the cervix is sufficiently prepared, to rupture the membranes; and he advises us to let the waters escape slowly, and to watch and compress the uterus externally.*

I cannot help thinking that the use of the plug in these cases is not without danger, particularly in the hands of the inexperienced, who might easily be led into a false feeling of security, and neglect

the very careful watch over the uterus which its use entails.

The same objection does not apply, to anything like the same extent, to the use of the india-rubber bags for plugging and dilating the cervix, particularly after rupture of the membranes, and I should be inclined to rely upon—1st, Rupture of the membranes, with administration of ergot or ergotin, provided there were no condition present, such as contracted pelvis, to contraindicate its use; 2nd, Should the hæmorrhage continue, turning, if it were still available, or, better still, rapid dilatation of the os with Barnes's bags, and subsequent speedy delivery, if necessary, with the forceps.

The President commended the paper, and agreed with Dr. Underhill in regard to treatment. He did not consider a plug often

necessary.

Dr. GORDON thought rupturing the membranes as a rule efficient to stop bleeding; but, when it failed, our difficulties were increased in emptying the uterus. He thought it better, perhaps, to turn in these cases.

Professor Simpson agreed with Dr. Gordon in thinking it not advisable to rupture the membranes as a routine practice, since it increased the difficulties of the after-treatment, and occasionally did not stop the hæmorrhage. Another point was that Dr. Underhill spoke as if accidental hæmorrhage was not a dangerous complication. He had seen fatal cases, and never liked to meet it. One of his last cases occurred just before he left Glasgow. One evening when he had got home from his rounds, the husband of the lady, who was a primipara, and about the eighth month, was waiting for him with the message that his wife did not feel very comfortable, but that it was nothing very important, and would not need a visit that evening. He went, however, and found that the lady had tripped while walking quickly, and that there had been a little bleeding. Both lady and child were dead by two o'clock the same morning. He never, therefore, felt comfortable in such cases.

In another case he had seen some years ago with the late Dr. Young, George Square, forcible dilatation was used. His opinion was that in such cases they should never be far from the bedside, and that the os should be dilated with Barnes's bags, or, if too small, with a sponge-tent. The first case he had seen after his return to Edinburgh was along with their Nestor, Dr. Burn, where both mother and child lived. In this case the placenta was diseased.

The paper was extremely interesting, and the cases well narrated.

^{* &}quot;Lehrbuch der Geburtshülfe," Lahr, 1877, Erste Hâlfte, s. 390.

Dr. Croom, in any cases he had met with, had found that the treatment recommended in the paper had been quite successful, although none of his cases had been of a very serious nature.

Dr. Murray mentioned a case of sudden death at the full time. On post-mortem examination the uterus was filled with blood and

placenta detached.

Dr. Burn had seen indentation of placenta from clots. As a general rule, if the os was well dilated, rupturing membranes and ergot were usually successful. He had found, however, difficulty in

turning.

Dr. Underhill thanked more especially Professor Simpson and Dr. Burn for their remarks. In his second case, had he to attend it again, he would have contented himself by rupturing the membranes and giving ergot.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, May 11th, 1878. Dr. Darby, President, in the Chair.

Report and Clinical Records of the Rotunda Hospitals for the year ending November 5th, 1877.

By LOMBE ATTHILL, M.D., Master of the Hospital.

The year embraced in the following Report is the first during which the arrangements lately made by the governors for the more efficient working of the institution have been in full operation. So far, these have proved satisfactory. The development of the extern maternity was, by some, looked upon as likely to diminish the number of applicants for admission into the lying-in wards. It appears to have had the opposite effect, nearly a hundred more women having been delivered in the hospital during the year just ended than in the preceding one. The admissions into the auxiliary hospital, also, have been much more numerous. This was the natural result of the increased accommodation provided for cases of uterine disease.

The number of patients treated in the various departments of the Hospital during the year ending November 5th, 1877, is as follows:—

Delivered in the Lying-in Hospital			1132
" extern maternity .			603
Admitted into the auxiliary hospital		-	404

Of the 1132 patients delivered in the Lying-in Hospital-

96 were delivered with the forceps.

9 by version.

10 cases of twins occurred.

31 ,, of breech, or feet presentation.

3 ,, of hand or shoulder.

4 cases of face presentation.

- 9 ,, of prolapse of the funis.
 12 ,, of accidental hæmorrhage.
- 25 ,, of post-partum hæmorrhage (of an alarming character).
- 3 ,, of placenta prævia.
- 11 ,, of adherent placenta.
 - 2 ,, of convulsions.
 3 ,, of mania.

No case of rupture of the uterus occurred during the year.

THE FORCEPS.

I have little to add to the remarks made in my former Report with reference to the use of the forceps. I think it right, however, to say, that the percentage of cases in which this instrument was applied—namely, once in less than every twelve cases—is very high. A tendency, without doubt, now-a-days exists, to the unnecessary use of the forceps. Nor is this due to practitioners alone, for I find that patients, in not a few instances, themselves beg to be delivered, and that many are fully alive to the fact that their sufferings can be shortened by the use of instruments; and while satisfied that little danger exists of injury accruing from the application of the forceps by skilful hands, even when needlessly used, still I feel it to be my duty to discourage this tendency as far as in my power.

With respect to the debated questions as to the advisability, or otherwise of applying the forceps before the os uteri is fully dilated, I have no hesitation in saying that the practice is, in many cases, not only justifiable, but called for, and that we should be culpable were we, with our present experience, to omit in many cases doing so.

Looking back on a long experience of the use of the forceps before the os was fully dilated, I do not remember a single case in which I regret its application. I am well aware of the valid objections which exist to such a course, and consider that, if possible, the use of the forceps before the full dilatation of the os, should, if possible, be avoided; but cases from time to time occur in which these objections must be set aside, otherwise we run the risk of endangering the safety of the mother and of sacrificing the life of the child. But the difficulty of the operation under such circumstances should not be overlooked; the resistance which the cervix offers to the extraction of the head is often great, while no little risk is incurred of injury being done to both mother and child from the exercise of the force neces sary to overcome this. I have frequently seen the anterior lip drawn down till it could be seen under the arch of the pubes. Consider the amount of pressure to which the cervix must have been subjected in these cases during the descent of the head through the pelvis, and how liable it is to be contused and even torn, and supposing that no serious results follow at the time, what proneness to the occurrence of chronic disease of the cervix will remain.

Another danger, not imaginary, but one which occurred in my presence some years ago, is the possibility of the blade of the forceps being applied outside the cervix, and the consequent tearing away of a portion of the lip, while traction is made. In the case which I witnessed the mistake was detected before the lip was actually torn off, but not till the point of the blade had passed through the cervix. The portion thus included subsequently sloughed off. The patient recovered. This case occurred several years ago. I relate it now because I feel that while the application of the forceps before the os is fully dilated is justifiable in some cases, the practice should, if possible, be avoided, and the frequent use of the instrument under such circumstances discouraged. Moreover, it is my firm belief that the infantile mortality, after the application of the forceps when the os is not fully dilated, is larger than is shown by statistics; for in many of these cases the child is resuscitated with difficulty, and dies within a very limited time, but, nevertheless, is registered as "born alive," and this leads to an erroneous conclusion as to the amount of real good done.

TARNIER'S FORCEPS.

Having had the good fortune, while in Paris last spring, to have the mode of application and action of this instrument demonstrated to me by the talented inventor, I procured, and have on several occasions applied, Tarnier's forceps, both in the hospital and in private

practice.

It is impossible not to admire the ingenuity of the construction of this instrument, but at the same time I cannot say that I am satisfied with it. It is complicated and troublesome to manipulate, and the pressure exercised on the fœtal head is so great as to endanger the life of the child. This objection appears to me to be incapable of being remedied, for in addition to the compression exercised by the screw, the traction blades evidently tend to close the extremities of the prehensile blades whenever the force necessary to effect extraction is applied. So that in difficult cases—the very ones in which the use of this instrument is advocated—it becomes most objectionable, as the pressure of the fœtal head increases with the amount of force exercised. Moreover, the pressure is never relaxed, as is the case when the ordinary forceps is used. One advantage claimed for Tarnier's forceps is that it leaves the head free to rotate, and that when the head enters the brim in the third or fourth position it will consequently, during its descent, change into the second or first position. In the first case of the kind in which I used the instrument this occurred, and I was very favourably impressed by the circumstance; but in none of several similar cases in which I applied the instrument did the head rotate—it was extracted face to pubes. Consequently I have come to the conclusion that Tarnier's forceps are not in this respect superior to Barnes' double-curved forceps, which is the instrument usually employed in the hospital; while in

ease of application, and in lessened liability to compress the fœtal head, the latter is decidedly superior.

CASES OF DIFFICULT LABOUR.

Tarnier's Forceps.—The following illustrates the use of Tarnier's forceps—it was the first occasion on which I applied the instrument. The case was one of considerable difficulty.

Case I.—A. K., aged twenty-nine. Delivered June 16th, 12.30 P.M. Labour difficult, due to rigid os. Was admitted on the 13th, supposing herself to be in labour, but not being so, and living near, was sent home again.

15th—Re-admitted 11 P.M. Has had pains ever since, disturbing her rest every night. R. Tr. opii, M. xl.; chloral, gr. xl.; aq. ad zij. M. zss. every twenty minutes. Did not sleep; pains in-

cessant all night.

16th, 7 A.M.—Head was found low; os small and rigid; to have a warm bath. 10 A.M.—Membranes gone; head in first position; head well in pelvis; os about size of a five-shilling piece; to have another warm bath. 12 noon.—Soon after 12 o'clock I applied Tarnier's forceps, under chloroform, and the child was born alive at 12.23. The perinæum remained intact. The os was only about two-thirds open before putting on the forceps, but dilated fairly when traction was made. The instruments had held over left eve and right lower jaw and side of face. The rigid handles had indicated traction more anteriorly than is usually made, and when the blades and handles were once fixed the extraction was as easy as with ordinary English forceps, if not more so. The placenta followed the child in about twenty-two minutes, the delay being due to the fundus uteri not being easily grasped. 1.30.—Pulse 68; temp. 99°.; there was no hæmorrhage; was rather fretful. 8 P.M.—Catheter passed; urine drawn off. 9 P.M.—Pulse 92; temp. 100.8°; no hæmorrhage, no pains; restless; feels thirsty. 18th.—Pulse 120; to have infusion of ergot, 3j. with twenty grains of the hyposulphite of sodium every sixth hour; uterus tender: requires catheter still. 19th.—Pulse 106; uterus less tender; urine high coloured and thick; tongue coated. Pulse 120; temp. 1015°; full anodyne administered last night. From this date continued to improve, and was discharged on the 27th.

Difficult Labour due to Narrowing of Antero-posterior Diameter of Pelvic Brim; Large Child; Forceps applied.

Reported by Mr. ANDREW HORNE.

CASE II.—M. K., aged thirty, of low stature, dark complexion, was admitted into the labour ward of the Rotunda Lying-in Hospital at 10 P.M. on August 29th, 1877, having completed her full period of pregnancy. Her history was as follows:—She had four children, all of whom, with the exception of the first, had to be delivered by means of instruments. Her present labour commenced twenty-two

hours previous to admission, the membranes having ruptured eight hours prior to her coming into the hospital. On vaginal examination the promontory of the sacrum was very easily reached, evidently projecting unduly forward; os uteri nearly three-fourths dilated; head high above the pelvic brim. Barnes' double-curved forceps were applied. Some difficulty was experienced in locking the blades, the Steady traction was maintained for forty head being so high. minutes (of course not continuously) before the head passed the brim. In fact, at one time it was feared that perforation would have to be had recourse to, so little progress was made; and it was only after the exercise of powerful traction that the head passed through the brim. After the head was born, much difficulty was experienced in extracting first the shoulders, and then the pelvis, for the child was very large and weighed 12lbs. 30z. Notwithstanding the length of time this patient was in labour, and the amount of force required to effect delivery, the child was born alive, and survived. The placenta was expelled in twenty minutes. There was severe postpartum hæmorrhage two hours afterwards, which was controlled by cold water injected into uterus, together with subcutaneous injections of ergot. This patient made a rapid recovery, and was discharged on tenth day subsequent to delivery.

Observations.—This case shows most clearly the value of the long forceps. It would have been impossible with the ordinary short for-

ceps to have effected delivery here.

Tedious Labour; Tarnier's Forceps applied; Diphtheritic Endometritis.

Reported by Dr. Purefoy, Assistant-Physician to the Hospital.

CASE III.—J. T., aged twenty-four, first child; delivered 18th June. Labour commenced on Saturday, 16th, with escape of liquor amnii. No uterine action till early on Monday, 18th; os dilated slowly; had warm baths, chloral also administered. Tarnier's forceps applied at 10.30 P.M. on Monday, os being then fully dilated. Pulse (some hours before delivery) 116; fell afterwards to 90; fret-

ting; is unmarried.

June 20th.—Slept part of the night. Pain over the uterus on pressure; pulse 100; temp. 1018°; tongue rather furred; bowels not opened. Had a full anodyne last night. Ordered sulphocarbolate of sodium, gr. 10, with tincture of opium, III 10, every sixth hour.

June 21st.—Slept well all night, uterus not so tender as yesterday; pulse 112; temp. 100.8°; tongue furred; bowels opened yesterday.

June 22nd.—Pulse 104; temp. 101'4°, fell slightly. Had rather a restless night on account of wakefulness of child. Uterus very slightly tender; tongue still rather furred; bowels moved once yesterday. Tongue has been dry and brown in centre several times during the last three days.

June 23rd.—Pulse, in the afternoon, 102; temp. 102'4°; tongue

moist and little coated; much tympany; a red patch on right buttock

and over right hip.

June 24th.—Pulse 120; temp. 103°; tongue dry and rough; edges red; much tympany; surfaces of vagina covered with a thick white deposit; vaginal discharge sero-purulent; vomiting of darkgreen matter, and purging; red patch on elbow. Uterus and vagina to be syringed out with a solution of carbolic acid, 3 grs. to the ounce, every sixth hour.

June 25th.—Pulse 120; much abdominal tenderness to-day; bowels quiet; vomited four times, but retained a good deal of

nourishment.

June 26th, 12 nocn.—Pulse 100; tongue very much better; patient says she is so; erythematous patches on hip and elbow have quite disappeared; much tympany, but only slight tenderness in right iliac fossa. Yesterday the vaginal discharge was like healthy pus; swelling and redness of external genitals much less. To-day there is continued improvement in this direction; morphia was used hypodermically last night and this morning; herpetic patch on nose. 8 p.m.—Pulse 125; tongue furred and dryish; right calf swelled and painful.

June 27th.—Slept well after needle; tongue moist, but coated in centre; looks and feels much better; pulse 96; right calf like a

large bag, dusky and painful; no vomiting or purging.

June 28th, 8 P.M. - Pulse 128; tip of tongue red; some tympany

still; very little tenderness; very little vaginal discharge.

June 29th, 12 noon.—Pulse 94; some diarrhœa last night; ordered the following mixture:—Subnitrate of bismuth, Ziss; dilute nitric acid, Ziss; tinct. of opium, Ziss; compound tinct. of chloroform, Zij; water to Zviij; Zij every sixth hour. From this date she

made a rapid recovery.

This case is a well-marked example of diphtheritic endometritis—a disease which has been fully described by Meikel, Virchow, &c. generally begins within a few hours after delivery (or sometimes during labour), and its access is marked by a rapid rise of temperature, followed by a rigor; pre-existing fissures of the vagina or perinæum become discoloured and the discharge offensive; at the same time the abdomen becomes swollen and painful, and considerable cedema and ulceration of the genitals occur, and in some cases these parts may become gangrenous. In the uterus abundant purulent fluid is formed, and numerous ulcerations with adherent exudations, just as in the vagina. In the bladder and intestines diphtheritic patches are found; the kidneys, liver, ovaries, and spleen become enlarged and friable, and the lymphatics become dilated, their contents being either firm or soft like pus. Sometimes the pleura and pericardium become engaged, and in the joints and in the muscles, as in this case, abscesses are formed.

Coincident with these destructive changes are well-marked symptoms—viz., violent retching and vomiting of dark fluid, epistaxis and

great impairment of the mental faculties, the patient becoming somnolent and sometimes maniacal. The fever is of the continued type. The temperature ranges from 105° to 107°, and the pulse between 120 and 160. Recovery may take place, but 65 per cent. of these cases die either between the seventh and ninth days, or a little later from some of the sequelæ, such as pleuritis, pericarditis, abscesses, &c.

Treatment.—We should support the strength by the free use of quinine and stimulants, and treat the local mischief by the assiduous application of antiseptic injections into the uterus and vagina.

Narrowing of Pelvic Brim; Premature Labour Induced; Bipolar Version.

Reported by Mr. Andrew Horne.

CASE IV.—Mrs. Jones, aged twenty-seven, fair complexion, married four years, was admitted into hospital August 21, 1877, in the

eighth month of her second pregnancy.

Previous History.—States that she has never been very strong; had lived for seven years in Boston, United States, America, and was confined there two years ago, in the City Hospital, but that the child had to be delivered in "quarters." Two months previous to that confinement she had been in hospital on account of severe pain in her back, and the physician then wished to bring on premature labour, but she refused, and went to her full time. He also told her if ever she again became pregnant, it would be with very great risk to her life. She returned to Ireland a year ago.

Present History.—Has not seen a menstrual period since January

last; quite regular previous to that time.

August 22nd.—The master (Dr. Atthill) proceeded to make a careful examination of the state of the pelvis, passing for this purpose the whole hand into the vagina, the patient being brought previously under the influence of chloroform, and found that the promontory of the sacrum projected very much forwards, so as to lessen considerably the antero-posterior diameter of the pelvic brim. He, therefore, in the hope of saving the life of the child, and to lessen the risk to the mother, decided on inducing premature labour as soon as possible.

August 27th, 10 AM.—Dr. Atthill introduced an ordinary gum elastic catheter between the membranes and posterior wall of the uterus, to the depth of about four inches. It remained *in situ* for some hours, but then slipped out, and it was re-introduced the same

evening.

August 28th.—On making a vaginal examination this morning the os was found to be the size of a sixpenny-piece. No uterine action had set in, consequently the catheter was again inserted, the external part being coiled up in the vagina; pains came on feebly in the evening.

August 29, 9 A.M.—Os had dilated to about the size of a florin;

the membranes slightly protruding; has not had any pains; pulse 105. In the hope of inducing uterine action, Dr. Atthill now ruptured the membranes: a small quantity of liq. amnii only escaped. At 2 P.M. she got a warm bath, also chloral was administered, as there was a tendency to rigidity of the os. At 11 P.M. os very little larger than a florin, there being total inertia of the uterus for some hours; pulse, risen to 120, small and quick; tongue becoming dry, chloroform was administered, and the Master performed bipolar version, two fingers only being introduced into the os uteri; a foot having been brought down, he quickly delivered the woman of a female child alive. There is nothing to add of any interest as regards her subsequent recovery, as it was quite normal in every respect. The child, however, died on the fifth day.

Observations.—This was the only case during the year in which we found it necessary to induce premature labour. The mode adopted did not prove altogether satisfactory; nothing like regular uterine action ever set in, even after the rupture of the membranes; and the patient's condition becoming unsatisfactory, I was compelled to interfere. The termination of the case was, however, very

favourable.

Difficult Labour due to Irregular Contractions and Extreme Rigidity of the Cervix Uteri; Version attempted and failed; Head lessened, and Delivery effected by Crotchet and Forceps; Death of Mother.

CASE V .- A. B., aged thirty-three, admitted during the night of 27th March. Membranes had ruptured before admission. At 9 A.M. on the 28th the os was three-fifths dilated; head above the brim, thrown forward, and resting on the pubes; the cervix appeared to grasp the head firmly; the pulse had risen to 125; the patient altogether in most unsatisfactory condition, and it was decided to effect delivery if possible by version, the head being in a position which would render the application of the forceps very difficult. The patient being brought under the influence of chloroform, the hand was passed into the vagina, the os uteri yielded easily enough, but as the fingers glided over the head the progress was impeded by the constriction of the os internum, which encircled the head near the base very closely indeed. After some time this constriction was so far overcome that a foot was reached, but it was found impossible to effect version, so closely was the uterus moulded to the child, especially around the neck. On the withdrawal of the hand, the constriction already referred to became as tense as ever. Being satisfied that the child was dead, we decided to lessen the head, and allow some time to elapse before proceeding further, hoping that the difficulty to be encountered might be lessened by the moulding of the head; but after the expiration of two hours matters proved to be unaltered. I therefore proceeded to apply the cephalotribe, but in consequence of the extremely anterior position of the head, I found this to be impossible. On each attempt to crush the head

the blades slipped. I compressed the head considerably, but never succeeded in grasping it with sufficient firmness to permit my extracting it. I therefore had recourse to another method. Passing the crotchet within the cranium, and with it obtaining a pretty fair grip, I succeeded in drawing down the head sufficiently low to enable me to apply Barnes' forceps, and with the aid of them, traction also being made with the crotchet, we succeeded in effecting delivery, though even after the birth of the head the extraction of the shoulders was a matter of difficulty. The placenta proved to be morbidly adherent throughout, and its removal had to be effected by the introduction of the hand. Some slight hæmorrhage followed, which was easily controlled. The pulse after delivery was 140. The patient never rallied thoroughly. At 10 P.M. she complained of great pain in the abdomen, and became tympanitic rapidly, and died the following morning at 10 A.M.

Observations.—The foregoing case was one of the most anxious and difficult I have yet encountered. I never previously met with the extreme constriction of the cervix round the neck of the child, which existed in this case, nor do I remember one in which the application of instruments was rendered so difficult from the position which the head occupied, which was nearly out of reach, and closely encircled by the cervix.

CASES OF COMPLEX LABOUR.

The following cases, in which hæmorrhage occurred, are selected as being those of most interest:—

Partial Placenta Prævia; Version, when Os was but one-third dilated, after use of Barnes' Bags; Difficulty in Extracting Head; Forceps applied.

CASE VI.-M. N., aged forty, eleventh pregnancy, admitted Jan. 26, at 5 P.M. Stated that she was in the seventh month of pregnancy; that at 8 A.M., on the morning of her admission, she had suddenly a profuse loss of blood; this lasted for an hour and then ceased; at four o'clock it recommenced, and she sought admission into the hospital. On examination, the cervix was found to be very long; the os only admitted the tip of the finger; through it the head could be felt, and also the margin of the placenta overlapping the os uteri. The hæmorrhage having ceased, any treatment was for a time postponed; but as it set in again, I determined to attempt to effect delivery, the patient having become very weak. Accordingly, at 11 P.M., I succeeded in introducing Barnes' smallest bag within the os, and in distending it with water, but the hæmorrhage still continuing it was (at 12.30 A.M.) withdrawn. The os was then found to have dilated considerably, and the membranes to protrude; these were at once ruptured, and a considerable quantity of liquor amnii was evacuated. I hoped that the hæmorrhage would now cease, but in this I was disappointed—the patient continued to lose blood freely. Her condition being now very critical, I decided to deliver by turning if possible, and, accordingly, I brought her rapidly under the influence of chloroform, and introduced my hand into the vagina; the cervix yielded with tolerable facility before my fingers, and I succeeded in grasping and bringing down a foot, without passing my whole hand into the uterus. Before doing this, however, I detached the lower portion of the placenta from its attachment to the cervix; version was accomplished easily, and the breech and body of a small fœtus easily extracted, but the head was so firmly grasped by the cervix that no force which I felt justified in using sufficed to free it. I therefore had recourse to the forceps, and passing one blade over the face, and another over the occiput, freed and extracted the head without much difficulty. The child had evidently been dead for some time.

Observations.—This case illustrated a not uncommon difficulty arising in cases of premature labour from the rigidity of the cervix uteri. I have known the head to remain, after the birth of the body, in the grasp of the cervix for hours—a source of great anxiety no less to the patient than to the attendant. The forceps should always be had recourse to under such circumstances, and if judiciously handled they seldom fail to enable us to extract the head. This case also shows the incorrectness of the statement, very generally believed, that hæmorrhage relaxes the cervix uteri; without doubt it has no such effect. This patient made a good recovery.

Post-partum Hamorrhage; Injection of Perchloride of Iron; Transfusion; Death of Patient.

CASE VII.—E. K., aged thirty, admitted into the Lying-in Hospital on Tuesday, Feb. 6, 1877, at 1.30 AM. This was her ei hth pregnancy: three days previously the waters had escaped, and since then she had suffered from slight pains. The patient was aged-looking and anæmic. On a vaginal examination (9 A.M., Tuesday, February 6th), the os was found to be soft and patulous, admitting the point of the finger easily She had no pains during the day, and slept well that night. During the day following (Wednesday) labour advanced slightly. In the evening the cervix had disappeared, and the head could be made out presenting. On Thursday morning, February 8th, at 7 A.M., true labour pains set in, and at 4 P.M. the child was born. After an interval of twenty minutes, during which pressure with the hand was kept up on the fundus, the placenta was expelled. No hæmorrhage occurred, and the uterus being firmly contracted, the binder was applied. After the lapse of about half an hour, however, a stream of blood was observed trickling from the vulva, slight in quantity, but flowing continuously. The binder was consequently loosened, and the state of the uterus carefully examined. It was found to be fairly contracted, and the binder was reapplied. The oozing, however, continued. Dr. Hart, Assistant-Physician to the Hospital, was now summoned. He injected ergot hypodermically,

applied firm pressure, and a clot was expelled. The little stream of blood, however, still continuing to trickle down, he injected cold water into the uterus, without obtaining any result; the blood still trickled down, just as before. The patient's condition now became alarming; her pulse could hardly be felt, and she complained of being very weak. She was in this state when I saw her (5.45 P.M.), and, without any delay, we proceeded to inject a solution of the perchloride of iron, passing the tube up to the fundus of the uterus, and injecting about six ounces of a solution of the strength of one ounce of the strong liquor to four of water. This at once arrested the hæmorrhage, and no further loss occurred, though a watery discharge, small in quantity, was perceptible on the sheet. The patient's condition now improved, the pulse returned to the wrists, the feet and body were warm, and she expressed herself as feeling comfortable. Hot punch and beef-tea were freely given, and were retained. This satisfactory state, however, did not last long. After about twenty minutes she fell into a state almost of collapse, from which the hypodermic injection of ether roused her but slightly. Seeing that her life must speedily become extinct, unless the vital powers could be invigorated, I decided on trying transfusion, and sent for Dr. R. M'Donnell to aid us: He came promptly, and at about 7.45 P.M. the process was commenced—fifteen ounces of blood being willingly afforded by Mr. Gage, one of the intern pupils of the hospital. During the interval which had elapsed while the preparations were being made, the patient had vomited copiously, and became cold. Still the case did not appear by any means hopeless. The vein was exposed by Dr. M'Donnell without much difficulty, and, though flaccid, was not absolutely empty of blood. The point of the tube which conducted the defibrinated blood from the pipe was quickly inserted into it, and the process of transfusion at once proceeded with. The blood entered the patient's vein freely, and almost entirely by its own gravity; but the favourable results we anticipated did not occur. The pulse did not return to the wrist, and the patient, instead of expressing any sense of improvement, became restless and complained of great distress and of pain in her chest. The whole quantity of blood contained in the pipette slowly passed into the patient's system, and we continued to hope that, after a short interval, its beneficial effects would become visible, but in this we were disappointed. The restlessness and jactitation increased, and the breathing became shorter and shallower. Ether was again injected hypodermically with transient benefit, and brandy and water administered in small quantities, but in vain. She gradually sank, and died at 10 P.M., six hours after the birth of her child—two after the transfusion had been effected.

A post-mortem examination was made twelve hours after death, by Dr. G. F. Duffey, Pathologist to the Hospital, of which the following is a note:—

[&]quot;On laying open the abdomen, the uterus was found to reach

nearly to the umbilicus. There was slight vascularity of the peritoneum. The uterine walls were fully one inch in thickness, not infiltrated with either blood or serum, and quite firm. The cavity of the uterus contained a large quantity of black fibrinous shreds and coagula, some of which were firmly adherent to the mucous membrane. On the posterior wall of the fundus was an elevated sessile mass, about the size of a crown-piece. It could only with difficulty be separated from its attachment, and resembled an altered blood-clot or fibrinous mass, which had partly undergone fatty degeneration. The right lung was healthy, with the exception of slight and easily broken-down pleural adhesions. The left lung was so extremely adherent that it was impossible to remove the lower lobe without lacerating it. This portion of the lung was of a bright, glistening, red colour, studded with minute black points. It was non-crepitant. No plug was found in any of the larger branches of the pulmonary artery leading to it. There was a large quantity of fat on the surface of the heart. Its cavities were empty, and their walls extremely pale and flabby. To the naked eye the cardiac muscle seemed to be in a state of fatty degeneration. The walls of the right ventricle were markedly attenuated."

Observations.—Transfusion in this case, though most skilfully performed, failed to produce any beneficial effect, and, on the contrary, was followed by extreme distress. This was probably due to the condition of the lungs. We subsequently ascertained that this poor woman had been for many days without sufficient food; and little doubt can exist but that the difficulty in restraining the hæmorrhage was caused by the blood being deficient, in an extreme degree,

of fibrin.

Post-partum Hæmorrhage—Complete Failure of Pulse—Symptoms of Septicæmia—Death in forty-eight hours after Delivery.

Reported by Mr. Edwin Thew.

CASE VIII.—E. McL., aged thirty, first pregnancy, admitted into the Lying-in Hospital February 27; child born at 6.30 P.M. Immediately afterwards there were successive gushes of hæmorrhage; placenta expelled by uterine action alone in five minutes; at once profuse hæmorrhage followed, which was treated by the usual application of cold cloths, &c., and ergot was given both hypdermically and by the mouth. These remedies not seeming of much avail, Dr. Hart was sent for, and, at his suggestion, the Master. About 7.30 P.M. the hæmorrhage had entirely ceased; patient much exhausted and almost pulseless; subcutaneous injection of ether and half an ounce of brandy every fifteen minutes was ordered, along with beef-Soon after the first dose the patient's stomach was sick; enemata of beef-tea and brandy and opium given twice; hot jars to feet and spinal bag of hot water; pulse weak; repetition of ether subcutaneously; hot flannels, &c. At 9 P.M. pulse much improved; sleeping; improvement continuing; brandy. 10.50 P.M.—Patient expresses herself as being much better, and asks for a drink; a little beef-tea given.

Feb. 28th.—Patient much better, but has alternate slight rigors, followed by flushing; pulse good. Ordered, quinine 10 grs.; tinct.

opii, 10 M; liq. ferri perchlor., 10 M, every four hours.

29th.—Pulse in radial artery cannot be felt this morning, but she appears fairly well, and had a tolerable night. Feels a little sick this morning, and threw up; tongue very foul; retention of urine; water drawn off; temp. 105°; resp. 30; respiration laboured and nasal; pupils contracted; pulse can be felt at elbow; brandy, 3ij every hour, and tinct. digitalis, M 5, to each dose. At 7.36 P.M. complained of great pain in the left cardiac region, and of inclination to be sick; vomited a little; poultice of linseed meal with a little mustard to left side; feels difficulty in breathing. R Sodæ hypophosphitis, gr. xx; spt. amm. arom., M xx.; tinct. chlorof. co., M x; tinct. opii, M xv.; aq. ad \(\)\(\)j; sig.—to be given every four hours. At 9 P.M. pulse at wrist not perceptible; thirst and dyspnæa, with foul tongue. 9.45.—Evidently sinking; ether injected subcutaneously, without effect; transfusion attempted, but failed. died in a short time, apparently of collapse.

Observations.—This is one of those cases in which the injection of hot water into the uterus would have in all probability proved most beneficial, but it was not till several months subsequently that I

adopted this practice.

Twins—Post-partum Hæmorrhage—Secondary Hæmorrhage on the third day—Introduction of the Hand into the Uterus—Injection of Perchloride of Iron—Death from Septicæmia.

Reported by Mr. J. W. Johnstone.

Case IX.—A. C., aged twenty-three, first confinement, admitted August 28. The progress of labour seemed slow; patient restless; stomach irritable and rejected food in the course of the day; otherwise no unfavourable symptoms. The first stage ended about 5 p.m., and then there was a pause, and but a few weak pains. About seven o'clock a stimulating enema was given, and immediately the uterus was roused, and the pains continued pretty good until the birth of the first child. After a short time the membranes of the second feetus were ruptured; a dose of ergot was given, and soon the second child was born—the presentation being a breech. Finally, after about twenty minutes, the two placentæ were, with some difficulty, expelled.

August 31st.—Pulse 134; temp. 103'2°; complains of great heat and pain over the vertex of the head; no abdominal tenderness; tongue coated, moist. Some secondary hæmorrhage at 5.30 P.M.

Complains of great pain.

September 3rd.—Seemed to progress fairly well up to this date, though the temperature continued to range high (103°); but on the morning of the 3rd hæmorrhage set in, and clots came away, which were extremely feetid, though the uterus had been syringed with

Condy. The hæmorrhage continuing, patient being very weak, Dr. Atthill introduced his hand into the uterus at 9.30 P.M., the patient being at the time under the influence of chloroform. A large quantity of very fœtid clots and portions of membranes which were adherent to the fundus were brought away. The uterus was thoroughly washed out with a solution of carbolic acid, gr. ij to 3j, and, hæmorrhage continuing very profuse, afterwards a solution of the perchloride of iron was injected.

4th.—Pulse 108; vomited. 11.30 P.M.—Pulse 140; has no pain

nor discharge.

5th.—Pulse 124; bowels moved twice since morning; vomiting green matter, without nausea. 10 P.M.—Pulse 145; makes no com-

plaint except intense thirst.

6th.—Slept well; pulse 162; temp. 105'3°. 12 P.M.—Pulse 180; skin cool; delirium; had full anodyne liq. morph. xxx. M; did not sleep; was wildly delirious, requiring three people to keep her quiet.

7th.—9.30 A.M.—Pulse 146; temp. 105°; still very restless; skin cool and moist; tongue clean; had a subcutaneous injection of

morphia. Died at 4 P.M. of septicæmia.

Observations.—This case also would have been admirably suited for the intra-uterine injection of hot water. Unfortunately I had not then adopted the practice. It also illustrates the danger of secondary hæmorrhage from retention of portions of the membranes, and the liability of septicæmia from decomposition of the clots, &c.

Post-partum Hæmorrhage—Hour-glass Contraction—Injection of the Perchloride of Iron.

CASE X.—B. K., aged nineteen, admitted October 3rd. Child presented by the feet; labour in other respects normal; profuse hæmorrhage followed the expulsion of the placenta, which was treated by the hypodermic injection of ergot and the application of cold; this restrained the loss for a time, but after the application of the binder it recurred; the patient now became exceedingly weak, and the hæmorrhage continuing, I determined to inject the solution of the perchloride of iron, the uterus at this time being large and firm. On passing my fingers inside the os uteri, with the view of guiding in the pipe of the syringe, I found it arrested by the firm contractions of the os internum; this was overcome in a few moments, and passing four fingers into the uterus I removed several large clots, and then injected a solution of the perchloride of iron in the proportion of one part of the strong liquor to four of water; no further loss occurred. The next day this patient's temperature rose to 104°, the pulse being 140; she was put on infusion of ergot 3j, hyposulphite of sodium gr. 30, and tinct. of opium II 10, every sixth hour, with great benefit; the temperature fell steadily, and she left the hospital on the 13th October.

Observations.—This woman's life was in great danger. I believe it was saved by the prompt injection of the perchloride of iron—an

agent which has never, in my hands, produced any unfavourable effect.

CONVULSIONS.

Convulsions—Insensible on admission—Death, undelivered, in two hours,

CASE XI.—M. C., aged twenty-seven, first pregnancy, admitted 9th August; a patient in the extern maternity department; first seen at 4.30 P.M. Stated to have had the first fit at about 2.30 P.M. the same day. Was received into hospital at 5.30. Was then in a state of coma; could not be roused; has bitten her tongue and lip; os uteri small; head presenting; right pupil larger than left; right cheek shows some puffing; legs slightly, but decidedly ædematous. 6.10.—Hydrate of chloral gr. v., hypodermically; chloroform administered moderately; urine drawn off very dark brown, loaded with albumen. 6.30.—Pulse 80; temp. 101'2°; chloral gr. v.; membranes ruptured; liq. amnii very dark, as if containing meconium; pulse less firm; irregular; chloroform ceased; ether injected subcutaneously; heart thought to have threatened to fail suddenly. 6.45.—Pulse firm, regular, but not as hard as on admission; occasionally (throughout) draws a deep inspiration; respiration more natural; less livid. 7 P.M.—No fits since 6.37; pulse quiet; respiration still snoring; less lividity; eyes heavy; upper lids dark and ecchymosed. 7.20.— Chloral gr. v., injected subcutaneously; deeper snoring once or twice, but without any rigidity of limbs. 7.35.—Turpentine enema; sudden lividity and cessation of respiration; injections of ether; frictions with ammonia in vain; died immediately; no autopsy could

Observations.—This was an absolutely hopeless case from the first, the patient being unable to swallow; Dr. Purefoy tried the effect of injecting the hydrate of chloral, with some temporary benefit. I was away from the house and did not see the case. The advisability of performing the Cæsarian section was discussed, after the death of the mother, but it was considered useless, the child being probably dead.

Convulsion occurring on seventh day after delivery—Labour tedious— Forceps (Tarnier's) applied.

Reported by Mr. WILLIAM SHAW.

CASE XII.—A. C., aged thirty-six, eleventh pregnancy; has enjoyed good health in general; states that she had "fits" after her last confinement. Labour on this occasion tedious from inertia.

Forceps (Tarnier's) applied.

Case progressed favourably until the 7th day, when, at 5 P.M., she complained of headache, walked over to her bed, and was immediately seized with an epileptiform convulsion. At 7 P.M. this was repeated; there was not thorough consciousness during the interval. A third fit occurred at 7.30 P.M.; croton oil M j, and calomel gr. iij, were administered. Forty grains of the hydrate of chloral were

ordered to be given in divided doses, and patient to be put under the influence of chloroform on the reappearance of a fit. At 8.15 P.M. patient had some convulsive twitchings of the face, and the neck was rather rigid, but the body and limbs were not affected. At 8.30 P.M. another fit came on (or rather followed immediately on patient recovering from the effect of chloroform administered for the previous attack), in which the whole body was slightly affected with clonic spasm, somewhat more marked on the right than on the left side. Neither fit lasted more than about thirty seconds, and both yielded to chloroform. A few minutes before 9 P.M. patient vomited—the vomit chiefly consisting of blood-stained mucus; an enema of turpentine and starch was now given. At 9.30 P.M. part of the enema was expelled without fæces. Shortly after 10 o'clock patient's bowels were freely moved; fifteen grains of chloral were given to patient; the difficulty, however, of getting her to swallow the medicine was so great that a good quantity was lost. An additional draught containing gr. 15 was ordered to be given should she become restless during the night. Ever since the last fit patient had remained in a quiet, drowsy state, sometimes apparently asleep, sometimes yawning and slowly rolling her head to one side or the other; and she had once recognised the nurse when spoken to by her.

September 25th.—Pulse, evening, 78. Patient slept well till 5.30 A.M., when she woke up, and asked for her child; expressed wonder at her own weakness, and wanted to know what had happened to her. She then fell asleep again, and did not waken till 7.30 A.M. At the morning visit Dr. Atthill ordered her a mixture containing gr. 30 brom. potass. and gr. 15 chlorat. potass. every sixth hour. Since the previous note patient's bowels have been twice moved—once during the day and once during the night; a normal amount of urine has been passed, and no albumen has been found; there has been no return of the fits, and patient says that, with the exception of great

weakness, she feels nothing the matter with herself.

September 26th.—Pulse, morning, 76; evening, 72. In same condition as at time of last note, but weakness not so great; urine normal in amount and appearance.

September 28th.—Discharged.

Convulsions coming on forty-six hours after Delivery.

Case XIII.—M. L., aged twenty-eight: admitted 5th June; delivered 6th. *Face to pubes*; forceps applied; 38½ hours in labour. Appeared

quite well for first two days.

June 8th.—Had an epileptic convulsion at 4 P.M.; pupils dilated; tongue slightly bitten; ordered bromide of potassium, gr. 20; had four convulsions up to 6.30 P.M.; was ordered chloral hydrate 3j per rectum, and bromide of potassium, gr. 20, with chloral, gr. 10, to be given every two hours: is very excitable, although conscious, and medicine is given with much difficulty; enema returned almost immediately after being given, 10 P.M.—Only one dose of the

medicine has been given, since she has slept continuously since 7 P.M. till now; pulse 104; temperature 97.4°; is restless, with twitching of

flexors; ordered another draught of bromide and chloral.

June 9th.—Tongue loaded; ordered calomel and jalap bolus, which was followed by several loose motions, the last of a dysenteric character, quite red and gelatinous, and attended with much abdominal pain.

June 10th.—Abdominal pain very troublesome still; opium and

poultice; pulse 104, irregularly intermittent.

June 11th.—Tongue a little coated; belly flat; occasional pain;

bowels a little moved three times; pulse 119.

June 12th.—Slept well; bowels moved once early (normal), and again at 2 P.M. 5 P.M.—Pulse 130; tympany; uterus large and soft, but not tender; pain in left iliac fossa; tongue thickly coated, but moist.

June 15th.—Much improved; insists on being discharged.
These two cases are chiefly remarkable from the late period at which the convulsions occurred; both patients were seized without

any premonitory symptom.

The treatment we rely on in cases of convulsions consists in the immediate administration of chloroform, and subsequently of the hydrate of chloral, with, in some cases, the bromide of potassium. Bleeding we seldom have recourse to.

Erysipelas of Head and Face—Result, Illness of Patients in adjoining Wards.

CASE XIV.—M. A. K., aged twenty, first pregnancy; admitted 15th February, at 4 P.M., in the first stage of labour, suffering from

erysipelas on the whole face and head.

The mortality in the hospital during the winter of 1876-7 was very low, from the 1st November to the 15th February, only four deaths from all causes having occurred. At about 4 o'clock on the lastnamed day the woman referred to above was sent to the hospital in labour, and in my absence was iniudiciously admitted; she was placed by herself in a small ward adjoining the large ward No. 2, which was also empty, it having on that morning undergone the usual process of cleansing to which each ward is subjected prior to a fresh batch of patients being admitted.

On my arrival at the hospital, about two hours subsequent to her admission, I found her labour so far advanced that she could not be removed, and shortly after she was delivered of a healthy child. She passed a good night, and next morning was, to all appearance, doing well. But though there was every reason to hope that she would make a good recovery, the danger to other puerperal patients in the hospital, from her presence, was, in my opinion, so great, that I deemed it right to have her removed, and early in the day she was sent to the Hardwicke Hospital. All the bedding was then removed from the ward which she had occupied to be washed and stoved, and the ward

itself was fumigated and then left unoccupied for some weeks. On the afternoon of the day (15th Feb.) on which she was delivered, four patients were admitted into No. 1 ward, which is on the opposite side of the corridor to the ward which this patient occupied, and from which it is further separated by the width of the staircase. These patients were all delivered on the 15th. On the 16th and 17th six patients were admitted into No. 2 ward, which was separated from that in which the case of erysipelas had been by a small ward occupied by one of these patients. These wards opened directly off each other. Five of these six patients suffered; they had well-marked rigors, high temperature, quick pulse, severe abdominal pain, and tenderness on pressure; some, doubtless, were more seriously ill than others, but the condition of them all was such as to give to much anxiety, and I anticipated an outbreak of puerperal fever. Happily, my fears were not realised-all these patients recovered; one was treated with 5-grain doses of quinine with 10 drops of tincture of opium every fourth hour, the others with 30-grain doses of the hyposulphite of sodium with 15 drops of the tincture of opium administered at similar intervals.

The only one who altogether escaped was a case of abortion

occurring in the third month of pregnancy.

So much for the patients in No. 2 ward, which communicated with that in which the erysipelas case had been. Bear in mind that none of these patients had been admitted till after the date of the removal of that patient. All recovered, though the symptoms in all were very serious, and two were alarmingly ill. Of the four patients in No. 1 ward, two merely complained a little, a third had symptoms similar, though in a less marked degree, to those exhibited by the patients in No. 2 ward; the fourth, a very delicate woman, and who had been ailing before admission, was attacked in a similar manner and died. Here, then, of ten patients admitted into an hospital, of which the sanitary condition had, previous to the admission of a case of erysipelas, been most excellent, nine were attacked by illness more or less severe, and one died, the only one who escaped being a case of abortion.

I should add that the disease, thanks to our admirable sanitary arrangements, spread no further, and that the health of the hospital remained in the same satisfactory condition as previously.

MORTALITY DURING THE CLINICAL YEAR.

The health of the hospital was excellent during the whole period embraced in this report—only thirteen deaths having occurred out of 1132 cases—a mortality surprisingly small considering the class of patients admitted into this hospital. Indeed I believe the rate of mortality of the institution to be lower this year than it has been at any time during the last twenty years.

I take this opportunity of pointing out that the percentage of deaths among the patients in the extern maternity was as high, or even

higher, than among those delivered in the hospital, eight deaths having been returned out of 603 cases occurring in this department—and this, though we have been unable to ascertain the result in several cases which were likely to terminate fatally, in consequence of their friends calling in practitioners unconnected with the hospital, and thus removing them from under our observation, and also in some cases obtaining their admission into other hospitals, thus rendering the mortality apparently lower than it otherwise would have been.

Following the arrangement made in my last report, I have classed the fatal cases under four heads, namely:—

Class I.—Deaths directly traceable to nature of the labour, seven cases.

CLASS II.—Deaths resulting from or supervening on diseases contracted before administration into hospital, two cases.

CLASS III.—Deaths occurring in patients suffering from mental distress, two cases.

CLASS IV.—Deaths not traceable to any predisposing cause, two

DEATHS OCCURRING DURING YEAR ENDING 5TH NOVEMBER, 1878.

CLASS I.

Deaths directly traceable to the nature of the Labour.

Case I.—E. K., aged thirty, eighth confinement. Delivered 8th February; died in six hours subsequently. Hæmorrhage set in soon after expulsion of placenta; could not be stopped by ordinary means; perchloride of iron injected with good result, but she nevertheless did not rally; transfusion then had recourse to in vain. For particulars of this case see page 657.—Cause of death: Pos:

partum hæmorrhage.

CASE II.—E. McL., aged thirty, first confinement. Delivered 27th February; died 1st March. Profuse hæmorrhage set in immediately after expulsion of placenta, restrained by cold, hypodermic injection of ergot, &c.; patient then much exhausted and almost pulseless; ether injected subcutaneously with some benefit; vomited everything given by mouth. Two hours subsequently, much improved and slept; pulse good. No further hæmorrhage occurred, but without any assignable cause she began to sink on 29th; pulse could not be felt at wrist, and she died on 1st March.—Cause of Death: Collapse subsequent to hæmorrhage.

Case III.—H. D., aged twenty-six, third confinement. Delivered 1st March; died 10th March. Placenta morbidly adherent, removed by introduction of hand; some hæmorrhage; had rigor on 2nd March, twenty-four hours after delivery; tongue thickly furred; uterus small and tender. Ordered thirty grains of the hyposulphite of sodium every sixth hour. 3rd.—Uterus syringed out with solution of the permanganate of potash; feels much better. 5th.—Breast full

of milk; rigor at 4 P.M. 10 P.M.—Says she is quite well. 6th.—Another rigor; abdominal pain has returned; tongue dry and brown. 4 P.M.—Vomited. 7th.—Much tympany; abdominal tenderness nearly gone; vomitting continued; gradually sank.—Cause of Death:

Septicæmia. Example of repeated rigor.

CASE IV.—A. B., aged twenty-three, fourth confinement. Delivered 28th March; died 29th. Difficult labour; membranes ruptured many hours before admission, and water drained away; previous duration of labour uncertain; was in a state of great exhaustion; os two-thirds dilated, very rigid, with a large scalp tumour formed; very little uterine action present; on passing the fingers over head of child inside os, a rigid band, probably the os internum, was felt firmly constricting the neck. The uterus was moulded to the child so closely that version was impossible; head was finally lessened, and extraction effected by aid of crotchet; cephalotribe failed. Never rallied; died next day.—Cause of Death: Collapse.

Case V.—J. McK., aged twenty-nine. Delivered 30th March; died 6th April. First confinement. Labour very tedious; waters drained away early: os did not dilate; chloral administered; warm baths, &c.; finally, at the end of forty-eight hours, os still but two-thirds dilated, the forceps were applied, and she was delivered of a dead child; peritonitis set in and proved fatal.—Cause of Death:

Peritonitis.

Case VI.—M. C., aged twenty seven; admitted 9th August in a state of coma; stated to have had frequent convulsions before admission; died, undelivered, soon after admission.—Cause of Death: Convulsions.

Case VII.—A. C., aged twenty-three, first confinement. Delivered 28th August; died 7th September. Complex labour; twins. On the 31st August complained of severe pain over vertex; no abdominal tenderness during the day; some secondary hæmorrhage occurred, which was restrained by the administration of ergot. On the 3rd September (her seventh day) hæmorrhage again set in; ordinary means failing, she was placed under influence of chloroform; the hand introduced into uterus, and a mass consisting of coagula and portion of membranes firmly adherent to fundus, in a fœtid state, were removed—the uterus at same time thoroughly washed out with a solution of carbolic acid; hæmorrhage still continuing, the solution of perchloride of iron was injected, with excellent effect. She did well for the next three days, but on 6th August became wildly delirious, and died on 7th.—Cause of death: Septicæmia.

CLASS II.

Deaths resulting from or supervening on Diseases contracted before admission into Hospital.

CASE VIII.—K. G., aged twenry-six, second confinement. Delivered 10th January; died 15th January. Ill on admission. Stated

that on the afternoon of the preceding day she was attacked with a severe rigor which compelled her to go to bed; a few hours subsequently began to feel labour pains; got up and came into hospital; was delivered at 3 P.M. of a putrid fœtus, weight $2\frac{1}{2}$ lb. At 9 A.M. same day complained of severe pain in right ankle, which soon swelled and became red. On the 11th abdomen became tympanitic and painful to the touch; pulse 150; temperature 104'2°; face presented an anxious expression; cheeks flushed; died 15th; autopsy seven hours after death. In addition to the usual appearance resulting from peritonitis, the whole of the inner surface of the uterus was lined by a dark gangrenous layer, which could only be separated with difficulty from the uterine wall.—Cause of Death: Septicæmia.

Case IX.—M. A. H., aged thirty-six, first confinement. Delivered 5th May; died 7th. Was labouring under double pneumonia when admitted, which proved fatal two days subsequently; no abdominal

symptoms whatever.— Cause of Death: Pneumonia.

CLASS III.

Deaths occurring in Patients suffering from extreme Mental Distress.

Case X.—M. K., age twenty-seven, first confinement. Delivered 8th January; died 13th. Stated her age to be twenty-seven; looked upwards of forty; was much emaciated, and in a state of great debility; said that she was married, but deserted by her husband; was fretting, and evidently in great want; had a rigor at 4 P.M. on 9th; subsequently complained of tenderness all over abdomen; great tympanitis and vomiting; sank rapidly.—Cause of Death: Peritonitis.

Case XI.—M. D., aged twenty-two, first confinement. Delivered 10th February; died 15th; unmarried, fretting greatly. On evening of 1th February complained of pain on pressure over uterus; became rapidly tympanitic; vomiting set in on 12th; gradually sank; mind quite clear to the last.—Cause of Death: Peritonitis.

CLASS IV.

Deaths not traceable to any predisposing cause.

CASE XII.—M, B., aged twenty-one, first confinement. Delivered 9th November; died 18th November. Appeared to be very delicate. Labour easy—eight hours' duration; had a rigor twenty-four hours after delivery; right labium much swollen; vaginal mucous membrane very unhealthy-looking; pulse 120; temp. 104°. 11th, had another rigor, and vomited green fluid. No tympanitis or abdominal tenderness. 13th, became maniacal. Died 18th.—Cause of Death: Septicamia.

Case XIII.—C. B., aged thirty, third confinement. Delivered 15th February; died 21st February. Went on well till 17th, when she complained of pain above pubes. This was at first localised, but

gradually extended over whole of abdomen. Believe this patient's illness was due to infection from case of erysipelas, referred to on page 664.—Cause of Death: Peritonitis.

Extern Maternity Department, 1876-77.

Reported by Mr. F. DALY and Mr. Andrew Horne, Clinical Clerks.

No. of natural labours, 480; difficult, complex or preternatural, 67; abortions, 56.—Total, 603.

Of presentations of the upper extremity there was 1; of the lower

there were 19.

COMPLEX CASES.

Prolapse of funis, 2; hæmorrhage—post-partum (dangerous), 9; accidental, 4; secondary, 1; twins, 11; convulsions, 2; retained placenta, 9; face presentation, 1.

The forceps were applied 25 times, namely:—For prolapse of

funis, 1; for tedious labour, 23; for narrowed pelvis, 1.

Version performed 3 times:—For presentation of funis, 2; for arm presentation, 1.

Perforation and cephalotripsy, 2-both fatal.

Deaths occurring during Year ending November 5, 1877, in the Extern Department of the Rotunda Hospital.

Case I.—M. K., aged thirty-seven, delivered December 21st; died December 27th; in bad health for three months before confinement. Labour tedious, lasted forty-eight hours, when forceps were applied; os four-fifths dilated, and head above brim; difficulty in extraction, child being very large. The day subsequent to delivery abdomen became tender on pressure, together with tympany. Diffuse peritonitis followed, accompanied by pleuritis. Death on sixth day.

Case II.—M. B., aged twenty-one, delivered January 10th; died January 12th. Complex labour; funis presentation, with prominent sacral promontory and uterine inertia. Long forceps applied (head above brim; os three-fifths dilated) but failed to bring it down. A stimulating enema was given, but produced no effect. In three hours it was deemed necessary to perforate, and finally use the cephalotribe. Metritis quickly ensued, which caused death on second day.

Case III.—M. M'N., aged thirty, delivered January 18th; died January 23rd. Labour complex; partial placenta prævia. Patient had lost a considerable quantity of blood before assistance arrived. Membranes were immediately ruptured; no hæmorrhage followed. Delivery was effected naturally in four hours; placenta retained; had to be removed manually. Metritis developed on the second day. Uterus and vagina syringed out with a weak solution of carbolic acid. Severe vomiting set in on third day, relieved by morphia hypodermic injection, and ice to suck. On the fifth day had two attacks of syncope, from the second of which she never rallied.

CASE IV.—M. W., aged twenty-nine, delivered January 30th; died

February 6th. Patient was in bad health for some months; hæmorrhage before and after delivery. When first seen was in a state of syncope; ether administered hypodermically, brandy by the mouth, after which she rallied. Secondary hæmorrhage occurred on the sixth day, and again on the seventh, under which she sank rapidly.

Case V.—M. D., aged twenty-nine, delivered March 20th; died March 20th. Patient was labouring under acute bronchitis at time of delivery. Being somewhat relieved, on seventh day after her confinement she got up, contrary to directions, which renewed her

attack, and died two days afterwards.

Case VI.—J. F., aged thirty, delivered April 13th; died April 21st. Severe post-partum hæmorrhage set in so copiously that it was necessary to inject perchloride of iron into uterus, which immediately checked it. On the fifth day she became maniacal, and died on the ninth day.

CASE VII.—M. B., aged fifty-four, delivered May 19th; died May 22nd. Labour natural; acute bronchitis developed on second day. At early morning on the third day after confinement sudden dyspnœa

set in, followed by death.

Case VIII.—A. N., aged eighteen, delivered July 14, 1877; died July 16th. Labour complex; antero-posterior diameter at brim very much contracted. In labour thirty hours, when long forceps were applied, but failed to extract. Perforation was then performed, and finally the cephalotribe was brought into use before delivery could be effected. Metritis and peritonitis followed. She succumbed on second day subsequent to delivery.

Dr. M'CLINTOCK.—There appears to have been a remarkable discrepancy between the rate of frequency with which the forceps has been used within the hospital and outside it. Within the hospital the frequency was 1 in 12, or about 8 per cent., whereas in the extern cases it was only about 4 per cent. This, I think, is partly to be accounted for by the fact that the larger proportion of bad cases are sent to the hospitals; but that does not altogether account for it.

Dr. More Madden.—There are one or two points upon which I dissent from Dr. Atthill. He speaks in terms in high eulogy of the practice of applying the forceps before the mouth of the womb has been fully dilated by natural efforts. This practice has been lately re-introduced by papers read before this Society and elsewhere, and appears to have been adopted very largely and generally, and, as I can bear personal testimony, with the worst possible results in certain cases.

Dr. Atthill.—Pardon me a moment. You have said that I advocated the practice strongly, or used words to that effect. The language of my paper is as follows:—"Looking back on a large experience of the use of the forceps before the os was fully dilated, I do not remember a single case in which I used them myself in which I regret their application. But the difficulty of the operation

under such circumstances should not be overlooked." I also say that I believe the saving of life by the use of the forceps before the os has been fully dilated has been over-estimated, and that "while the application of the forceps before the os uteri is fully dilated is justifiable in some cases, the practice should, if possible, be avoided."

Dr. More Madden.—I stand corrected; but still the impression strongly on my mind from the early part of Dr. Atthill's paper is. that he had used the forceps before the os uteri was fully dilated, and that he had derived great advantages from it. The impression produced on my mind by the reading of Dr. Atthill's paper was, that in a certain number of cases he had used the long forceps before the os uteri had been fully dilated, and that he had derived great advantages from that practice. That statement coming from the Master of the Lying-in Hospital must have a great effect on the practice of others. I believe the use of the long forceps under such circumstances to be most dangerous. In a pamphlet which I published in 1869, and also in lectures which I delivered in the Lying-in Hospital on the use of the forceps in such cases, I pointed out the danger of the practice, and mentioned an instance in which the cervix was nearly torn away by it. I therefore venture to enter my protest against the practice. I do not know any cases, unless perhaps those of rupture of the uterus or of convulsions, or, in some instances, hæmorrhage, in which the practice can be necessary or useful in any respect; and I think that putting it into the heads of pupils is likely to be very detrimental to midwifery.

Dr. Cranny.—I have had considerable experience of the use of the forceps before the dilatation of the os uteri, and where the operation has been performed by a skilled hand I haver never seen any mischief to result. I have seen cases in which considerable injury had been done by forceps, but it was only from the want of sufficient knowledge to apply it. The abuse of any instrument is no argument

against the proper use of it.

Dr. Macan.—I stand up to say a few words in defence of the use of the forceps before the full dilatation of the os. In a case where the woman is at the commencement of her labour, when the os is dilated to a size of from a two-shilling to a five-shilling piece, if you attempt to put in the forceps and drag down the cervix you will very likely produce hæmorrhage and death. The whole difficulty is connected with the sudden dilatation of the os, and that is equally objectionable whether you do it by turning through the os, or by drawing the head through the os by means of the forceps. The degree of danger attendant upon the operation depends on the thickness of the cervix and of the os, and how near you are to the inner os. The instrument should be used at a time when the os will dilate itself. In some such cases the forceps supplies a vis à fronte instead of a vis à tergo. The question is—what are you to do when the os is not dilated but the woman is manifesting serious symptoms?

There is no way of securing a quick delivery in such cases except by dilating the os, whether you do that by turning the child and dragging it through the os, or by passing your hand in and causing a dilatation by the fingers.

Dr. Doyle had found syringing the vagina very efficacious in

softening the os.

Dr. Kidd was adverse to the use of forceps before the os uteri was fully dilated, except in such cases as convulsions or accidental hæmorrhage. If the os were dilated, it was needless; if it were

very rigid, it was dangerous.

Dr. Atthill (in reply).—I agree with Dr. M'Clintock that the number of cases in which the forceps was used in the hospital this year was very large. In fact I do not choose to go into explanations, but will merely say that I trust it will not be so again. The number of cases last year in which the forceps was applied was fifty-six, being half the number of the previous year; the number this year was ninety-six, and I consider that excessive, although no harm was done. With respect to Dr. Madden's observations, he evidently has misunderstood what I had said. As regards the use of the forceps before the os uteri is fully dilated, I stand in an intermediate position between my predecessor, Dr. Johnston, who advocates the present use of the forceps before the os is fully dilated, and Dr. Madden, who repudiates such a practice altogether; and I think I may class Dr. Kidd with Dr. Madden. Dr. Kidd says I did not give my reasons for the employment of the forceps in each of the cases. If I had done so it would have occupied entirely too much time. I have given general reasons; and I would ask Dr. Madden and Dr. Kidd how they would have acted in a case referred to in the report, in which the woman had been twenty two hours in labour, the waters having drained away eight hours before her admission, and the os only two-thirds dilated, while the child's head could be with difficulty reached, being quite above the brim. Version in that case would have been, in my opinion, almost impossible, and if it had been effected the child would probably have been born dead—the only alternative being to apply the forceps before full dilatation or to perforate. As to turning, my Paper gives cases in which I elected to do so, and the result was not encouraging. It is remarkable that last year my forceps cases were only fifty-six, while the mortality was thirty-seven, whereas this year the forceps cases numbered ninety-six, and the mortality was only thirteen, the number of patients being the same. With respect to Dr. Doyle's remarks as to the use of hotwater vaginal injections in certain cases of rigid os uteri, it has been my practice, in some instances, to direct the patient, while in a warm bath, to inject the water of the bath into the vagina with an ordinary syringe, and I have found this to be of much use. The application of the forceps in breech presentations is very unsatisfactory—the instrument generally slipped, while if a good grip were obtained there would be danger of injuring the child.

Obstetric Summary.

Laparo-elytrotomy.

The Lancet of Nov. 9th contains an account of the first case of this important operation performed in Europe. Our readers have already had reported the American cases of Dr. Skene (OBSTETRICAL JOURNAL 1876 and 1877, vols. iv. and v.), and the case of Dr. Thomas, in the November number of the Journal. As the operation is one of the very first importance, we give Dr. Hime's (of Sheffield) case at considerable length. On Sunday, July 14th, 1878, he was summoned to see the patient, Mrs. O'M-, at her home. She was then under the care of one of the midwives attached to the Sheffield Hospital for Women, and was in labour, at full time. Labour had advanced to the completion of the first stage, when the pains had ceased, and hence the summons sent for the doctor. The patient's room was permeated by a foul stench, caused by the cancerous discharge from her vagina and rectum. She was thirty-seven, and had borne nine healthy children, the youngest being two years old. She had been a heavy drinker for several years. For a year after the birth of her last child, she increased considerably in weight, but after that time she lost flesh, and at the date of Dr. Hime's visit was a thin, ill-nourished woman, with a large liver, fatty heart, and a face indicative of her intemperate habits. For eight months she had suffered from severe pain in the rectum, which was ultimately found to be caused by cancerous deposit there. For many months she had suffered from occasional attacks of hæmorrhage from the vagina and rectum, and for three months her motions had been coming per vaginam, from which, as well as from the rectum, there was a continuous and stinking discharge. Weakness and pain had kept her bedridden for eleven weeks. been affected with diarrhea for several days, with incessant vomiting. The vaginal canal was narrowed to about two inches by cancerous. disease of the recto-vaginal septum, extending from the perineum to within an inch of the posterior vaginal cul-de-sac. part of the posterior wall, and the anterior wall of the vagina were soft and elastic, and the uterus was apparently healthy. The os was fully dilated, and occupied by the bag of water, the child's head being felt above the brim. It was evident that only operative measures could terminate the labour, and the question to decide was whether to encourage natural labour to proceed, or to deliver artificially. Against the former procedure were the limited size of the vaginal canal, and the nature of the obstruction, which was prone to bleed spontaneously, and must be expected to bleed profusely if it were lacerated, as it would be by the passage of a fully-grown child; and further, the fact that the mother was very much exhausted, while the child was still above the brim of the pelvis, and uterine contractions had ceased. In addition to the natural objections to wilfully destroying the child by craniotomy, there were the dangers to be anticipated

from the unavoidable, and probably fatal, laceration of the morbid growth which must be produced in operating under existing conditions.

Considering that the consequences of Cæsarian section in such a case must probably be immediately fatal to the mother, while something must be done to save the child, it was determined to try laparoelytrotomy, as offering the best chances for both mother and child. The patient was accordingly removed to the Hospital for Women. Owing to its being Sunday afternoon, and to the necessity for operating at once, before any further advance of the child into the pelvis took place, only two medical men could be found ready to assist at the

operation.

The operation was carried out antiseptically, except for the spray, which was unavailable, owing to an accident. The patient having been placed on the table was chloroformed. She was sick several times, and was twice in great danger from the chloroform. An incision was made through the abdominal wall in the direction of a line drawn from the spina ilii ant. sup. sinistr. to the spina pubis. After a little difficulty experienced in distinguishing the præperitoneal layer of fat which simulated the appearance of the omentum, the peritoneum was exposed, hanging loose and ample, as is usual during advanced pregnancy. The peritoneum was drawn upwards to avoid its being wounded, and a blunt probe having been passed up the vagina, the roof of the anterior wall of the vagina was pushed by it into the bottom of the wound. This was seized by tenaculum forceps and cut through, and then the finger when passed through the incision was in the vagina, and readily felt the os uteri. The incision was then enlarged, and the hand passed into the vagina above the brim of the pelvis, and in front of the uterus, and the bag of waters was found occupying the os, the head being distinguishable inside. Podalic version was rapidly and easily effected, and a living male child then extracted through the incision, the placenta being expelled simultaneously. The uterus contracted well. A little hæmorrhage occurred from a couple of arteries divided during the operation, but altogether there was no more blood lost throughout than in many ordinary natural labours. The operation lasted in all about twenty minutes. The wound having been washed with carbolic lotion, and closed with carbolised gut-sutures and dressed, the patient was put to bed with hot bottles, &c. On partially recovering from the effects of the chloroform she became very violent, throwing herself about, and using abusive language. It required several persons to hold her down in bed. After a time she grew calmer, and had some hot coffee and brandy, and she seemed to rally. She also had subcutaneous injections of ether. From time to time she continued to be violent for a while, soon, however, sinking exhausted. By degrees she gave more hopes of recovery, when after a couple of hours she unexpectedly sat up in bed, "but in a few minutes grew livid and faint, and sank dying," evidently from cerebral anæmia.

Artificial respiration and other restorative measures were tried in

vain, and she shortly expired.

Necropsy, made next day. There had been no hæmorrhage after the operation, only a small clot being found in the bottom of the wound. The peritoneum had escaped injury, and also the bladder, and except those parts intentionally incised, no damage had been done. The uterus was well contracted, and not affected by malignant disease, and the os and cervix were free from laceration.

The author concludes that no other operation would have had a more favourable result for the mother. He also thinks that, considering the easy nature of the operation, the certainty of saving the child, and the strong probability (judging from Dr. Thomas's report) of saving the mother, it is a question how far craniotomy will ever again be justifiable, and whether Cæsarian section should not drop into oblivion. It should be added that the child was alive several

months after the operation.

In the British Medical Journal for November 30, Dr. Edis records another case of laparo-elytrotomy, performed as an alternative to embryotomy in a case of pelvic deformity. This also ended fatally for the mother, though the child was saved. The patient was a primipara aged twenty, and had ankylosis of the right hip-joint. The pelvis was small, the conjugate diameter being estimated at two and a half inches. Mr. Fardon, resident obstetric at the Middlesex Hospital, attempted to apply long forceps, but could not succeed in locking them. Dr. Edis was then sent for, and again attempted, but without success, the application of forceps. At this time it was noticed that a huge thrombus was distending the right labium. The patient was then removed to the British Lying-in Hospital, and Dr. Edis, after consultation, decided to perform laparo-elytrotomy, which was done under carbolic spray. Little hæmorrhage occurred, and the child was extracted easily, but the bladder was afterwards found to be torn somewhat on the right side. The patient did well for about thirty hours, after which she began to be restless, and showed symptoms of collapse. The pulse gradually increased in frequency, and she died forty hours after the operation. An autopsy was refused.

The Treatment of Eclampsia by Venesection.

Dr. Quantin, of Château-Gontier, relates six cases of puerperal eclampsia as evidence that expectant treatment of this affection is disastrous, and that bold venesection is the most efficacious remedy.

Case I.—The author was called at four P.M. to a primipara who had been in labour since the morning, when eclamptic convulsions had commenced. She had at first been under the care of a midwife, who, when the convulsions commenced, called in a doctor. A large number of convulsions had occurred in succession throughout the day, and no venesection had been performed. The patient was just

dead when the author arrived. Finding the os of the size of a twofranc piece he dilated it rapidly and extracted the fœtus by version, but it could not be resuscitated.

CASE II.—The author was called at seven A.M. by a gentleman who wished him to see his wife, who had been in convulsions all the night but had now become tranquil. On his arrival he found that the patient had been dead some hours, since the body was beginning to grow cold. She was apparently at the full term of pregnancy; there was enormous anasarca; the face was livid; the tongue bleeding and fixed between the teeth.

CASE III.—The author was called to a woman pregnant about six months who had just had a convulsion, and was complaining of nausea and headache. Finding that the pulse was feeble rather than hard, the tongue not bitten, and no sign of ædema, he prescribed only an antispasmodic draught, but directed that venesection should be performed if any convulsion recurred. Another fit did occur in the evening, and the patient was bled. After this there was no further recurrence; the pregnancy continued and terminated a month

after by the birth of a living child.

CASE IV.—A primipara, twenty years old, was attacked with eclamptic convulsions at the full term of pregnancy. The os admitted only the tip of the finger, and was not readily dilatable. The feetal heart was heard, and the feetal head was movable above the superior strait of the pelvis. Copious venesection was performed, upon which the patient, who had been unconscious, completely recovered her senses. An hour later a fresh convulsion occurred. The vein was, therefore, reopened, and 400 grammes more of blood drawn; then forcible dilatation of the cervix was commenced. Convulsive fits still recurring, the author bled for a third time, and ruptured the membranes. Upon this the head descended into the pelvis, and the uterus began to act vigorously. The convulsions still not ceasing, the author attempted to extract by version, but this was rendered impossible by the strong contractions of the uterus. He then applied forceps, and delivered a living child. After delivery the convulsions ceased, but stertorous breathing and insensibility continued. The patient remained unconscious for two days, and passed through an attack of pneumonia, but eventually she recovered.

CASE V.—A young girl of feeble development, at the eighth month of her first pregnancy, was attacked by eclampsia. The lower extremities were cedematous; labour had not commenced. Venesection was at once performed to the amount of 500 grammes, and, as this produced no amelioration, it was followed by a second, to a less amount. The application of leeches and the use of purgative enemata were also prescribed, but it proved impossible to carry out these measures. Two more venesections were therefore performed in the course of two hours, after which the convulsions ceasedl Stertorous breathing continued for two days, after which the patient

became convalescent. A fortnight later she was delivered by a midwife of a dead child.

CASE VI.—A patient, thirty-eight years old, who had had one child at the age of twenty-two, was at the eighth month of pregnancy. The author was consulted on account of headache, dizziness, and disturbances of sight. He found the urine very albuminous, and the lower extremities ædematous. Accordingly he performed venesection to a considerable amount. The same evening an eclamptic convulsion occurred, followed by a second, in which the tongue was bitten. A second venesection of between 500 and 600 grammes was then performed. Twelve leeches behind the ears and a draught of chloral were also ordered. The patient was calm for a while after the bleeding, but the fits soon began again to recur every half-hour, one leech only having been applied. At II P.M. consciousness no longer recurred between the attacks, and the breathing had become stertorous. A third venesection was then performed. At 7 A.M. the next morning, however, the patient was still in a profound coma, only interrupted by fresh convulsions. A fourth venesection was then performed. At 12.30 P.M. consciousness had not returned. Twelve leeches behind the ears and alternate draughts of chloral and bromide of potassium were then ordered. In the evening improvement had commenced, and the next morning the patient was conscious, and able to answer questions. Labour had not commenced, but the fœtal heart could no longer be heard. From this time convalescence was uninterrupted. Three days later labour-pains commenced, and a dead fœtus was quickly expelled.

The author remarks that the first two of these cases show the fatal sixth prove that under vigorous treatment by depletion a cure may be effected before the termination of pregnancy by delivery; and the third is evidence that the pregnancy may go on and result in the birth of a living child. If labour has commenced, he considers it desirable to terminate it as rapidly as possible; but if not, he regards any interference as likely to prove a stimulus to the convulsions, and places his main reliance on very free depletion, repeated, if

necessary.—Archives de Tocologie, April, 1878.

Gynæcic Summary.

A Case of Dermoid Cyst of the Ovary.

Dr. Gomez Torres, of Granada, relates a case of dermoid cyst of the ovary successfully removed by ovariotomy after a fistulous opening had existed for nearly three years. The patient, Antonia C——, was twenty-five years old, and single. Menstruation commenced at the age of fifteen, and continued regular and perfectly normal up to the age of twenty. At that time she was frightened by a horse, and

the fright brought on syncope, and suppression of menstruation, attended by nausea and general malaise, which lasted for a week. Menstruation reappeared four months later, after treatment by iron. Eight months after the fright, and four after the re-establishment of menstruation, she commenced to feel pricking pain in the left iliac fossa, and then observed for the first time a tumour in this situation, which was hard, tender, movable, and about the size of a hen's egg. Pain continued, and the volume of the tumour went on increasing till it reached the umbilicus, where it formed a marked prominence. The medical attendant in charge, ascertaining that fluctuation was present, made an incision, which allowed to escape a large quantity of thick liquid. The tumour then diminished, the orifice became fistulous, and there continued to flow from it pus and thick matter, the nature of which could not be determined from the patient's account.

This condition of things continued for nearly three years, with exacerbations of pain at the menstrual periods. Three months before the patient came under Dr. Torres' care, there appeared protruding through the fistulous opening a mass consisting of bone with teeth implanted in it, the shape of the bone and the situation of the teeth being such that it resembled a dog's head. When this became known in the village it gave rise to extraordinary reports, and the patient was led, on this account, to come to Granada for relief. She was admitted into the hospital on January 15th, 1872.

The general condition was then good. The abdomen in the median line was occupied by a tumour commencing 3 ctms. below the umbilicus, and losing itself in the left iliac fossa. Measured transversely, its greatest diameter was 22 ctms. At its upper part, and a little to the left, the abdominal wall was destroyed to such an extent as to allow a part of the tumour to form a hernia in the shape of an irregular cone, whose base measured about 7 ctms. in diameter. At the truncated summit of the tumour were several teeth, which appeared to be canine, and which could not be detached. On one side, a little lower down, was a fleshy appendix resembling a thumb. The surface of the tumour felt hard and irregular, and on pressing it, watery pus of offensive odour poured forth. On vaginal and rectal touch, the uterus appeared to be movable, the cervix being directed backward and to the left.

Ovariotomy was performed on January 24th. The incision was made in the linea alba from the lower extremity of the ulcerated opening to a point three or four centimeters above the pubes. Much difficulty was found in separating the adhesions uniting the front of the tumour to the abdominal walls, and it was necessary to use the knife to divide them. Hæmorrhage was arrested by the actual cautery. It was then found possible to draw the tumour out of the abdomen, some unimportant adhesions being carefully separated. The solid portions of which it consisted however were prolonged as independent

masses into the iliac fossa, and it was therefore impossible to obtain a pedicle sufficiently long to fix in the wound by means of a clamp. The base of the tumour was therefore divided by the actual cautery, and this proved sufficient to arrest hæmorrhage. The wound was united by deep and superficial sutures, but it proved impossible to

adapt accurately the edges of the ulcerated opening.

On the evening of the 25th, the pulse had risen to 110, temperature to 38. Cent., and there was tympanitis, vomiting, and subdelirium. During the next two days there was improvement; on renewing the dressings on the 27th, it was found that the lower part of the wound was looking well, but the upper part was secreting creamy pus in abundance. On the 28th the pus was less creamy, and had become offensive. Swelling and tenderness being found in the right iliac fossa, eighteen leeches were applied over it, after which the pain was relieved. Mercury and belladonna ointment was afterwards rubbed

in every four hours over the same region.

On the 30th, to facilitate the escape of the discharge, one of the deep sutures was removed from the upper part of the wound, which did not seem inclined to unite by first intention. The same evening an intestinal hernia, larger than a turkey's egg, was found to have occurred at this point. A pad of charpie was employed to retain it within the abdominal cavity. On the 31st there was pain and tenderness in the left iliac fossa, and on vaginal touch a hard tumour was felt in the position of the left ovary, but no fluctuation could be The upper part of the wound was now beginning to be covered by healthy granulation. On February 2nd the general condition was improving, and the swelling in the left iliac fossa diminishing. On February 8th, the opening at the upper part of the wound was diminishing, though the intestines still tended to protrude under the influence of a cough or any other effort. From this time convalescence was steady till the patient left the hospital on the sixtythird day. At this time the ulcerous wound was closed by a solid cicatrix, and all the functions were accomplished normally. On the latest report, it was stated that the patient had married on leaving the hospital, that she had had two normal pregnancies, and was then pregnant for the third time.

The cyst removed had a thick wall, with a thin layer of osseous tissue on some parts of its internal surface. Its contents were a small quantity of pus, a gelatinous substance, skin with all its characters, hairs in great abundance, and of different lengths, very numerous teeth, some implanted in bones, some free in connective tissue, a large number of bones of various shapes, and cartilage, some of it in process of ossification. One of the bones resembled the temporal bone of a child of seven or eight years old, another resembled a parietal-bone, but was no larger than an adult's nail. Another bony mass resembled the coccyx with some of the sacral

vertebræ.

The author considers it proved that dermoid cysts do not com-

mence only in fœtal or infantile life, but may arise after puberty. The case now reported he considers a confirmation of this view, since menstruation was perfectly normal, and no tumour discoverable for five years after the commencement of menstruation, while the appearance of the growth appeared to be the sequel of an interruption of menstruation from an external cause.—Annales de Gynécologie, June, 1876.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"Papers on the Female Perineum, &c." By J. Matthews Duncan,

A.M., M.D. &c. J. & A. Churchill. Pp. 156.

"On the Wasting Diseases of Infants and Children." By Eustace Smith, M.D. Lond., &c. Third edition. J. & A. Churchill. Pp. 360.
"Cyclopedia of the Practice of Medicine" Edited by Dr. H.

"Cyclopædia of the Practice of Medicine." Edited by Dr. H. von Ziemssen. Vol. VIII. "Diseases of the Chylopoietic System." Sampson Low & Co. Pp. 935.

"On Puerperal Fever." By John Lindsay Muller, M.D. &c. "Zur Therapie der Chronischen Metritis." Von Dr. A. Martin.

"Report of the Puerperal Fever Committee of the Berlin Obstet-

rical Society." Translated by Dr. C. E. Underhill.

"The Influence of Uterine Displacements in producing Abortion, Dysmenorrhea, and Sterility." By G. M. B. Maughs, M.D. St. Louis: 1878.

"On Regressive Paralysis." By W. H. Barlow, M.D. Manchester:

J. E. Cornish. 1878.

"Results of Ovariotomy before and after Antiseptics." By Thomas Keith, M.D. Edinburgh: 1878.

"Der drittkleinste bisher bekannte menschliche Embryo." Von

Dr. Herman Beigel, in Wien.

"Address in Obstetrics and Diseases of Women and Children." By W. H. Byford, A.M., M.D. Philadelphia: 1878.

"The Spontaneous and Artificial Destruction and Expulsion of

Fibrous Tumours of the Uterus." By W. H. Byford, M.D.

"Fibrous Tumours of the Uterus." By W. H. Byford, M.D. New

York: 1878.

Communications received from Dr. Braxton Hicks, Dr. Aveling, Dr. Matthews Duncan, Dr. G. Hamilton, Dr. Hime, Dr. Wiglesworth, Dr. Vacher, Dr. Bantock, Dr. de Gorrequer Griffith, Mr. Button, and Dr. Godson.

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ANNUAL ADDRESS TO THE OBSTETRICAL SOCIETY OF LONDON.

By CHARLES WEST, M.D., F.R.C.P., President.

GENTLEMEN,—It seems but yesterday since I thanked you for the honour, the unexpected, unmerited honour, which you had done me in electing me your president; and now, at the end of two years so quickly flown, I stand here for the last time to resign into your hands the honour and the trust.

First of all, gentlemen, let me thank you for the kindness with which you have borne with me, the unvarying courtesy with which you have received me, the friendliness with which you have seconded every effort I have made for the advancement of the interests of the Obstetrical Society.

You have already given your verdict on those changes in the laws by which your Society is governed which the Council, after mature and most patient consideration, thought that the experience of five and twenty years had shown to be desirable. I sincerely hope that the alterations that you have sanctioned will help to secure the greater usefulness and more abiding prosperity of the Society.

In its internal affairs this prosperity is unabated, and the number of our fellows has even slightly increased. Our greatest trouble is that we need more space to provide for the yearly increase of our library, and for the proper display of our valuable collection of casts and instruments and drawings. This subject, I have no doubt, will engage the atten-

No. LXXI.—Vol. VI.

tion of my successor in this chair, and of the new Council, his coadjutors.

I had hoped to congratulate you on this occasion upon the regulations proposed by this Society for the education, examination, and registration of midwives having become the law of the land. The principles of the scheme not only met with the approval of the Medical Council, but were embodied by his Grace the Duke of Richmond in the Medical Acts Amendment Bill, which, but for the troubles in the East, would, there is every reason to believe, have passed both Houses of the Legislature.

Medical legislation, however, is at the best beset by so many difficulties, requires the conciliation of so many conflicting interests, and, unfortunately, gives an opportunity for people to indulge so many crotchets, that it has seemed to some of us it might be desirable to detach this simple practical matter from the wider question, and to endeavour to get a Midwives' Bill introduced separately into one or other House of Parliament. It does not in the slightest degree involve the interests of the medical profession, but it concerns the welfare of the poor very much.

No step, however, can be taken until we know what action Government intends to adopt next session with reference to medical legislation. We cannot but fear that the labours of peace may be as much interfered with this year by the Afghan question as they were last year by the Russo-Turkish war. Astrea redux will probably always continue to be a poet's dream. While waiting, we have the assurance of the friendly advice of Mr. Lennox Peel, of the Privy Council office, to whom, on so many occasions, we have already been indebted.

I may ask your leave to offer presently one or two suggestions with reference to the Society's future, but my next duty is the sad one of counting our losses during the past year. Two of our honorary and eleven of our ordinary fellows have died since our last annual meeting, and we have also been apprised since then of the death of three others of which we were then unaware, though it took place in the year 1877.

In a profession such as ours there will always be some there will often be many-who leave behind them no memorial, save in the affection of their relatives and friends, but who either die too soon for fame-like Mr. Allen, of St. John's Wood, in his twenty-third year, a young athlete, crowned almost before the struggle had begun-or whose walk in life has made them welcome visitors in the dwellings of the poor rather than familiar ministers to the wealthy, like Mr. Reid, of Bermondsey. When the tired labourer comes elsewhere to receive his wages, he may find that his short day of hard toil is, after all, not underpaid. And so I trust that the friends of these two gentlemen, or those of Dr. Magee, of Kensington, Mr. Drew, of Kentish Town, Mr. Tredennick, of Kensington, Dr. Martin, of Weston, Mr. Blood and Mr. Smith, of Jersey, will not think that I mean any slight to their memories if I pass their names by with a most sincere and earnest requiescat in pace.

Of Dr. Buckingham, who joined this Society in 1872, I know only what is told in a short but affectionate notice in the second volume of the "Transactions of the American Gynæcological Society," from the pen of his friend and fellow-townsman, Dr. Lyman. He was born at Boston, in America, in 1821, educated at Harvard College, where he graduated in 1844, and settled in his native town. early years were attended by those difficulties with which most of us are familiar; but he appears not to have been long before he gained success, and by the time he was forty years old he had already acquired a large practice, and had been appointed a professor in his old University, where he afterwards occupied the Chair of Obstetrics. He is spoken of as an able and impressive lecturer, and as a man active in every form of good doing which his profession brought within his power, and as respected and beloved by all. Ill health interfered with his activity. He collected materials for a work on midwifery, in spite of the suffering which cardiac disease brought with it; but he had to leave the materials unused when death relieved him from labour and released him from pain on February 10, 1877.

Much of the reputation and success of this Society is due

to the exertions of our local honorary secretaries. It is with double regret, therefore, that I mention to-day the name of Dr. Hodder, of Toronto, who died on the 17th January last. He was born in England, at Sandgate in Kent, in 1810; received his early education in Guernsey, and at St. Servan, in France, and after a short trial of the Navy, in which service his father held the rank of captain, he entered the medical profession. He began his career as a pupil of Mr. Amesbury, who had considerable reputation some years ago in London as an orthopædic surgeon, and completed his studies at Guy's Hospital, taking the membership of the College of Surgeons in 1834. After a short trial of his fortunes in London and at St. Servan, he visited Canada, and settled at Toronto, with the University of which city he connected himself. He seems to have been a man of much energy, of which no better proof can be given than the fact that after he had been some years in practice he re-visited London in order to refresh his knowledge in the medical schools of the metropolis, and to obtain the Fellowship of the College of Surgeons. Such a man's success was as well deserved as it was considerable. His reputation was not confined to that of an obstetrician, though it was as Professor of Obstetrics in one or other of the medical schools of Toronto that he was known as a teacher. He was a skilful surgeon, and is said to have had the same name in Canada as an ovariotomist as his still abler compeer, Dr. Peaslee had in the United States. He was active in all medical matters, a frequent contributor to the journals, though I am not aware that he was specially distinguished as a writer; but he was evidently a man of much practical ability. His services were valued as a member of the Medical Council of Ontario, and Dean of the Medical Faculty of Toronto. He was much respected, much beloved. and the friend who writes a brief notice of him says that "he leaves a blank very difficult to fill." This is high praise. It is not mine, but that of those who knew him best.

There remain four of our ordinary Fellows whose names call for mention. I regret that I cannot speak of them from personal knowledge.

The first is Dr. Shearman, of Rotherham, M.D. of the University of Jena, Member of the London Colleges of Physicians and Surgeons, and a Fellow of the Royal Society of Edinburgh, who died on October 3, 1878. He was born at Wrington, in Somersetshire, studied at St. George's Hospital, became a Licentiate of the Apothecaries Company in 1820, and, after a short stay in a small Yorkshire town, settled in general practice in Rotherham, in 1823. He was successful, and passed as successful country doctors often do, and do well, from the hard life of the general practitioner to the less fatiguing duties of the consultant. He obtained a degree from the University of Jena in 1841, and became first an Extra-Licentiate, and then in 1868 a Member of the College of Physicians. He was a man of active mind, always busy, and that beyond the bounds of his own profession; of much public spirit too, and anxious for the prosperity of the town where his life had been passed, and his fortune made. He took a large share in the establishment of the Rotherham Hospital, and was for many years one of its physicians, and helped both with his purse, and in other ways, the Literary and Scientific Society, and the Mechanics Institute, to the latter of which he gave a valuable collection of books and instruments. He wrote a few papers of no great importance on medical subjects; but though a Fellow of our Society he never contributed to its Transactions. His energy and activity continued almost to the last, and he took with him when he died the respect and regret of very many of his fellow-citizens. I do not know where the fault lay which deprived him of the cordial friendship of some of his colleagues. Perhaps it was, and if so it will do none of us harm to lay it to heart, that he may not always have lost sight of himself, the worker, in the work he did. The condition may seem a hard one. I believe it is essential to the permanence of all the work we do.

There are many histories of members of our profession like those of Dr. Steele and Dr. Bloxam; of men working hard all their lives, irreproachable in conduct, untiring in diligence, attaining at last to barely a modest competency, in some cases not even to that, and lying down worn out to die before old age has come. If any man has set his heart on making money he will do well to choose some other walk in life than ours.

Dr. Alfred Steele died of chronic disease of the kidneys at the age of fifty-eight, on the 9th of October last, in Liverpool, where he had practised all his life, having given up the house-surgeoncy at the Nottingham Hospital to take a similar position at the Liverpool Workhouse Infirmary. When he left that post he by degrees got into practice in the city. He lectured on obstetrics, and is said to have lectured extremely well. He became obstetric-physician to the Liverpool Infirmary, and besides his labours as a practitioner and a teacher, he devoted much time to the interests of the Lancashire and Cheshire Branch of the British Medical Association, of which he was secretary and afterwards president. Probably he cultivated too assiduously the very barren field of medical politics, which, as far as my observation goes, for I never tilled it, yields thorns and thistles only to the honest husbandman, but a rich harvest to the adventurer and quack. The too-hackneyed phrase that "he lived respected and beloved, and died lamented by all who knew him," appears in Dr. Steele's case to have been eminently true.

With equal truth may the same be said of Dr. William Bloxam, who died on November 5th, 1878, at his house in Mount Street, in his fiftieth year. He came of a medical family; his father was a well-known practitioner, and a very popular teacher of midwifery in my younger days, and his uncle was much respected as the leading medical man at Ryde, in the Isle of Wight. He studied at St. George's Hospital, where he was much esteemed and liked by his fellow-students. He took the degree of M.D. at St. Andrew's, in 1862, and for a short time was one of the lecturers on midwifery at the Grosvenor Place School of Medicine, but on its discontinuance he did not further engage in teaching. The only appointment he held, and he held it for many years, was that of Medical Officer to the St. George's and St. James's Infirmary, where he must have gained much of that knowledge which went to make him, what by general consent he was, a most excellent practitioner.

Just at the last moment, I have heard of another death; news of which comes with an added note of sadness, of a man, young, able, devoted to his profession, dying in its pursuit, a martyr to science; for Dr. Koch, of Colombo, died at the early age of some thirty years, of a wound received in examining a dead body. It seems to me far sadder, I do not think it is entitled to less honour, than the soldier's death on the field of battle. He was a native of Colombo, descended from one of the good old Dutch burgher families. He went to Calcutta, and there was one of the best pupils in the Medical College, as says my friend, Sir Joseph Fayrer, and his best is like the Hall mark, it must be real gold that bears it. The rest I tell in Sir Joseph Fayrer's own words:-"After finishing his studies in India, he came to England, and graduated. He returned to Ceylon, and became principal professor in the Medical School at Colombo. He was the moving spirit, and the great supporter of all progress in that institution, and it proved to be a great success. He was a thorough gentleman, an excellent physician and surgeon. In all respects he was a good man, and his premature death was deplored as a national calamity. You cannot speak too highly of him. You will, I am sure, touch a responsive chord in his own country. Gentlemen, what can I add to this? 'In all respects a good man.' There is no more to say. May as much be said of you and me."

It has struck me over and over again, while writing these brief life notices, how poor and bald and unsatisfactory they must seem to the friends and relatives of the deceased. But what can I do? Their inner life is too sacred for me to raise, if I could, the veil which hides it; its recollection must be cherished in the privacy of home, and friends may, I think, be content if the record borne by a censorious world concerning those whom they loved is that each in his separate walk did his duty, and left behind him an untarpished name.

My task is nearly done, and I have but to make mention of two more of our fellows, who held the distinction of our Honorary Fellowship, Dr. Fleetwood Churchill, and Dr. Edmund Peaslee; two men, who though widely different in character, had in common unwearied diligence and unselfish

aims, and met their well-deserved reward, not in success only, but in the respect and affection which attended them when living, and which follows their memories now that the grave has closed over them.

The former of the two, our countryman, Dr. Fleetwood Churchill, was an Englishman by birth, an Irishman by adoption, cosmopolite by his erudition, a successful practitioner, a valued teacher both with tongue and pen, but above all a high-toned Christian gentleman, who would have done honour to any country, and reflected credit on any profession. He was born at Nottingham in 1808. Of his early years I know but this, that he showed from very boyhood a special interest in the pursuit of medicine, and that he betook himself to Edinburgh for its study, taking his Doctor's degree in 1831. I do not know what induced him to devote himself specially to that department of medicine which he did so much to improve, but it was in order to perfect himself in midwifery that he first went to Dublin. He is not the first person who has found more than he sought in journeying. Dr. Churchill found friends, and a wife, and a happy home, worldly success, and a wide field for doing good. What could man wish for more, and so the apprentice ended his travels, Wanderjähre, the Germans call them-somewhat speedily, and settling down for life in the Irish capital, all but changed his nationality. Having become a Licentiate of the King's and Queen's College of Physicians, he established a small Lying-in Hospital, and in connexion with it opened a class for the instruction of students in midwifery. He soon became a very successful teacher, and his pupils all learned to look on him as a personal friend. He now also published his "Theory and Practice of Midwifery," which passed, as it deserved, through several editions. Of all the many works which he wrote, this is perhaps the most thoroughly satisfactory, for in it experience controlled the results of his reading, and the directions which he lays down for the guidance of the practitioner are clear and positive. His reputation and practice increased from the date of its publication, but he was not the man to be rendered indolent by success. Valuable papers and elaborate

treatises came in quick succession from his pen, while he discharged with reputation the duties of King's Professor of Midwifery in the School of Physic, no easy task for any one whose predecessor in the chair had been the accomplished Dr. Montgomery. His researches in operative midwifery appeared for the most part as detached essays in journals, and in their collected form can scarcely stand side by side with the exhaustive "Operationslehre" of Kilian, on the one hand, or with the valuable practical teachings of one of your past Presidents, Dr. Barnes, on the other. His "Manuals of the Diseases of Children," and of the "Diseases of Women," have passed through several editions, both in this country and America, have been translated into several languages, and served as text-books for many generations of students. They illustrate his strong points, and his weak ones; his untiring industry, his wide acquaintance with the literature of each subject, but at the same time his want of critical faculty and of original power. He did too much; an occasional respite from labour would have been well repaid; or better still it might have been, could the key of his library for a few years have been taken from him, and could he have been sent to work in the wards and at the bedside, with nothing to distract his observation. But he worked honestly and thoroughly, achieved for himself a wellmerited eminence in his own department, and won a warm place in the hearts of his friends by his honourable, simple character, and his lovable disposition. He was a man of general cultivation and of wide sympathies. He interested himself much in all forms of missionary enterprise, and especially also in the fortunes of the Irish Church after its disestablishment. One is always glad to find people with interests and pursuits outside their profession, and gladder still when one finds that in all, their motto like Dr. Churchill's, is "Sursum Corda." This, indeed, is a point in his history on which I must for a moment dwell, because it is opposed to a doctrine and a practice which appear to be gaining ground apace; that a doctor is to confine himself as a citizen to matters strictly medical, to circumscribe his action within the limits of his own

profession, instead of making his profession a starting point whence to arrive at more extended usefulness. In a certain sense the rule is a wise one; it saves wear and tear of mind, it enables a man to avoid disputes; he is friend with every one; there is nothing to interfere with his success, and "Men shall praise thee if thou doest well for *thyself*," said one of old. I have no doubt but that the man of whom the Eastern apologue tells us that his Master condemned him for not trading with his talent, was eminent in his profession, amassed a large fortune, and had inscribed upon his tombstone that he never made an enemy.

When health began to fail him, some two and a half years before he died, Dr. Churchill gave his valuable library to the College of Physicians, and retired to the country, where, in the house of his daughter and son-in-law, "all that should accompany old age" attended him. He lived there beloved by all, and there he died peacefully on January 31, 1878, leaving to his widow a name to be proud of, to his children

an example to imitate.

Edmund Randolph Peaslee was born at Newton, in New Hampshire, in the United States, on January 22nd, 1814, studied at Dartmouth College, where he graduated in arts in 1836, and for some two years acted as tutor there. He subsequently engaged in the study of medicine, took his doctor's degree at Yale College Medical School, and followed the good practice of his countrymen in paying a long visit to Europe. He began practice at Hanover, in New Hampshire, and taught anatomy and surgery in the Dartmouth and Bowdon Colleges, and having already acquired a high reputation both as a practitioner and teacher, he removed to New York in 1858, where he occupied the chair first of obstetrics and afterwards of gynæcology. His great claim to our Honorary Fellowship, and the work on which his reputation rests, was his treatise on ovarian tumours and ovariotomy, published in 1872. The book merits and has received very high praise. It is systematic, clear, candid, and takes account of every question which can arise with reference to ovarian disease. The conclusions at which the author arrives are controlled, in large measure, by his own expe-

rience, and are always sound and moderate, but, of course, the writer, the total number of whose cases of ovariotomy amounted at that time to only twenty-eight, cannot adopt as decisive a tone as another whose cases are counted by hundreds. Dr. Peaslee's fame, already high, was greatly extended by the publication of this book, and with increased fame came also large increase of practice. There seems, indeed, but little doubt, that his premature death, at the age of 64, was in a great degree owing to the incessant overwork which his practice forced upon him. It was his great good fortune that remarkable as his success was, it yet in his case stirred no enmities, for he seems to have had a special power of personal attraction which drew to him all with whom he came in contact; a charm which our friend, Dr. Barnes, tells me that he felt powerfully on his own visit to America. This day last year he was well, and one might have reckoned on a new edition of his book, or on other good work, the fruit of his ripe experience, but he caught cold on a journey, was attacked by pneumonia, and died after six days' illness on the 31st of January, 1878. The New York Academy of Medicine passed a resolution on the occasion of Dr. Peaslee's death which was so highly eulogistic, that it might be supposed to admit, as official documents often do, of some abatement, if it were not that his professional brethren came from long distances to add their testimony of respect and affection, and to attend his funeral, while those who could not come sent messages of regret. The members of the Academy of Medicine did not content themselves with the formal record of their sorrow, but at the meeting one after another rose up to add something more to the tribute of regard with which all looked on him while living, all mourned him when dead. To have merited and gained so high a name, and such large success, yet never to have stooped to what was unworthy, to have kindled no jealousy, excited no envy, is a happiness which falls to the lot of very few, and is in itself the highest praise.

I have thus, to the best of my ability, gone through the list of our losses, happily not more numerous than each year too surely brings. I cannot leave this chair without the

expression of my most heartfelt wishes for the prosperity of the Society. I do not know that I can prove their sincerity better than by offering to you, most respectfully, one or two suggestions with reference to its future.

My one regret when I entered on my office is still my one regret on quitting it-namely, that the labours of the Society are circumscribed within such narrow limits, and that they comparatively seldom overstep the boundaries of pure obstetrics. An art so entirely experimental as mid-wifery must of necessity present to all who follow it a number of problems which each practitioner, year by year, answers for himself, and answers, for the most part, as they have been answered by others years before. A first voyage round the world, a first visit to a far distant country, is full of novelty to the sailor or to the traveller. But the chart of the voyage has long been laid down, the map of the country is in the hands of all; the individual indeed has profited, but a record of his experience would teach little to others. I think we should all, both for the sake of medical knowledge in general, as well as for the improvement of ourselves in particular, deviate more than we have done from the familiar path, and from time to time say with the poet-

"To-morrow To fresh fields and pastures new."

I would urge it, too, for this additional reason, that I do not believe any Society can continue long to flourish which limits its work within too narrow boundaries. I would gladly see general physicians and surgeons seek our Fellowship, take a share in our debates, and contribute to our "Transactions." The Chinese have a curious art in gardening, by means of which they dwarf the oak, and from the acorn raise, not one of the giants of the forest, but a stunted shrub. I do not know wherein else the secret consists, but the result is partly due to the tree being planted in a narrow box which gives its roots no room to grow, and prevents the wholesome changes of the soil. To take an illustration from another class of subjects still more familiar to us all; we know that the effect of breeding in and in is to deteriorate the race. I

am anxious also for this widening of our boundaries for, if I may so say, a moral reason; that, namely, of preventing personal jealousies and petty feelings from obtaining an entrance into your Society. Family quarrels are proverbially bitter, and I know of no surer mode of preventing them than the adoption into your family of as many as possible not strictly belonging to it; not having the same class of ambitions or interests as yourselves, but bound up with you in the common aim of advancing knowledge and benefiting mankind.

And lastly, gentlemen, may I, in descending from the eminence to which you have raised me, be allowed to borrow the words of one who, had he lived in our day, would have belonged to us, and whose spirit I should wish to be Perpetual President of the Obstetrical Society—William Harvey. In instituting the annual oration at the College of Physicians he uses words which, with scarcely a change, it behoves us well to ponder. He exhorts the Fellows to "search and study out the secrets of Nature, but also for the honour of the profession to continue mutual love and affection amongst themselves, without which neither the dignity of the Society can be preserved, nor yet particular men receive the benefit of their admission into the Society which they might expect, ever remembering that concordid res parvæ crescunt, discordid magnæ dilabuntur."

Oxiginal Communications.

NOTE ON INTRA-UTERINE MEDICATION AND STERILITY.

By W. S. PLAYFAIR, M.D., F.R.C.P.

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I HAVE been much interested by Mr. Wiglesworth's case of occlusion of the os and cervix uteri produced by the application of fuming nitric acid, published in the last number of the Obstetrical Journal. It certainly teaches a lesson of caution in the use of that remedy which is not needless, since

it has been applied by some, especially in Ireland, with a freedom which has always seemed to me somewhat rash. My own experience with regard to it is not very great. I have, however, used it in many cases of severe menorrhagia, associated with endo-metritis, frequently with very remarkable benefit, and, I am bound to sav, without ever having seen any ill effects follow. My object, however, in writing this note is to comment on the latter part of Mr. Wiglesworth's Paper, in which he propounds the theory that the application of caustics to the interior of the uterus may be followed by sterility. If this were the case it would, no doubt, be a strong objection to their use. It would be interesting to hear the experience of others on this point. So far as my own goes it is directly opposed to Mr. Wiglesworth's. I may claim to have paid a good deal of attention to this matter, having communicated to the Meeting of the British Medical Association at Leeds, in 1869, a Paper on the treatment of chronic uterine catarrh, which I believe was the first in this country in which systematic intra-uterine medication was advocated, and subsequently a series of lectures* on "Intra-Uterine Medication in the Treatment of Chronic Uterine Catarrh.' For the past ten years scarcely a day has passed on which I have not practised intra-uterine medication in public or in private practice, possibly riding my own hobby a little hard, as many of us are apt to do. Not only have I never seen anything in the least approaching to Mr. Wiglesworth's case, but very rarely indeed anything beyond the merest transitory irritation. Indeed, I am as sure as I can be of any fact in medicine, that there are a large class of otherwise intractable cases, which yield, I do not say easily, but certainly to properly conducted treatment of this kind. So far from having any reason for thinking that it tends to produce sterility, my own experience would lead to the very opposite conclusion. It has been a matter of every-day experience with me to meet with cases of chronic endo-metritis, with sub-involution, after a labour, perhaps years before, in which intra-uterine medication has been followed so rapidly

^{*} Lancet, vol. i., 1873.

by impregnation, as to leave no doubt of the result being due to the removal of the cause which led to sterility. In cases of this kind there is generally a large, bulky, and possibly flexed uterus, with an abraded cervix, a patulous cervical canal, and much glairy mucus pouring from it. So commonly have I found pregnancy following the cure of these conditions, that I have over and over again remarked to patients, who have expressed themselves as being rather aggrieved at finding themselves in the family way, that I had come to consider pregnancy as the nearlycertain result and proof of a satisfactory cure. Only this afternoon I happened to see a patient with Mr. Tait, of Highbury, whose case affords a good illustration of this. She had been a great sufferer from conditions very similar to those mentioned above, for four or five years, during which she never became pregnant. A few months ago she was treated by intra-uterine medication with carbolic acid with marked benefit, and now she is undoubtedly pregnant.

It may well be asked, why should such treatment produce sterility? It is, no doubt, very desirable that we should possess accurate information, which we do not now do, as to the state of the uterine mucous membrane in such cases, and the effect of caustics upon it. Pending the acquisition of such knowledge, I think it fair to assume that the result of such applications is similar to that on the mucous membrane covering the cervix, and this is open to our inspection. Any one can satisfy himself that after swabbing a florid, abraded, granular, and bleeding cervix several times with a suitable application, it assumes the smooth, velvety appearance it ought to have in the healthy state. What reason is there to doubt that something similar occurs in the uterine mucous membrane, since its treatment is generally followed not only by the relief of pain and other local symptoms, but by healthy menstruation and the arrest of the glairy mucous discharge so characteristic of its morbid state? Nor, theoretically, is it at all difficult to understand why abundant catarrhal discharge from the uterus should prevent impregnation. Unless, therefore, some more valid evidence of intrauterine medication producing sterility is brought forward than Mr. Wiglesworth produces, I shall continue to hold the opinion I had formed, that in a large proportion of cases of chronic endo-metritis and uterine catarrh it is one of the best means of removing it.

I do not enter into the relative merits of the various applications to be used, although I venture to quote a passage from my lectures on this subject to show why, as I still believe, carbolic acid is the best, and free from the risk of producing the result which followed the use of nitric acid in Mr. Wiglesworth's case:—"There are certain properties, too, possessed by carbolic acid, which render it preferable to all others as an intra-uterine application. Neumann, of Vienna, has shown that when applied in a tolerably concentrated form, such as I use, it causes the tissues to shrink and mummify, but they never swell; nor does it produce an eschar, as do the stronger caustics, such as potassa fusa, the acid nitrate of mercury, or even nitrate of silver. We can, therefore, use it freely without any risk of producing contraction of the canal of the cervix—a result which has followed the use of other agents. Certainly no case has come under my observation where the slightest approach to such a result has followed the use of carbolic acid."*

Although foreign to the immediate object of this note, I may take this opportunity of saying that increased experience has taught me that intra-uterine medication is best practised within the ten days immediately following the cessation of a period, probably because the deeper layers of the uterine mucous membrane are then reached in consequence of their denudation during menstruation. If practised towards the end of the menstrual interval it is sometimes apt to bring on menstruation prematurely. Practically, I find that two applications, at an interval of three or four days from each other, during the time I have indicated, are all that is required.

^{*} Lancet, Feb. 15th, 1873.

ON A SHEAR PRODUCED IN THE FŒTAL HEAD BEFORE ITS ENTRANCE INTO THE BRIM OF THE PELVIS.

By J. MATTHEWS DUNCAN, M.D.,
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BUDIN* has described the head of a fœtus at the full time, which had not been subjected to the influence of the powers of labour. The fœtus was extracted by Cæsarian section before labour had commenced, and before the rupture of the bag of membranes. He describes it as slightly ovoid and regular. In my case the fœtal head was found irregular, after being subjected to such forces as are exerted after the commencement of labour and the discharge of the waters, but before entrance of the head into the brim of the pelvis. This fœtus was extracted by Cæsarian section.

It is only lately that attention has been directed to the shearing of the fœtal head by the process of labour. It had long been known that this part might undergo, from that process, change of shape, overlapping of bones, indentation of bones, fracture of bones, and dislocation at epiphysial junctions. Alterations of a quite different nature, called caput succedaneum and cephalhæmatoma, had also been described. But shear, or the peculiar displacement of parts in opposite directions without breach of continuity, was first described by Dohrn.†

The occurrence of this kind of change of shape, known as a shear, shows that the fœtus is in no sense a rigid body, nor one liable merely to compression, and to traumatic injury, nor one that can be bent only on its long axis, or undergo rotations. It must be regarded as possessing an amount of viscosity which demands careful study; such viscosity as is possessed in a comparatively small degree by ice. This property has an important place in the theory of parturition, and has easily demonstrated practical bearings. I have elsewhere‡ made reference to it, and it appears to me that, in the

^{* &}quot;De la tête du fœtus au point de vue de l'obstétrique," p. 24.

† Monatsschrift für Geburtskunde, 1864, Band xxiv. s. 418. See also
Matthews Duncan "Mechanism of Natural and Morbid Parturition," p. 212.

‡ "Mechanism of Natural and Morbid Parturition," p. 59.

discussions regarding feetaxial pressure, its consideration has to be included, and will greatly modify the views at present entertained.**

The case about to be narrated has special interest, because it indisputably demonstrates the power of the soft parts to produce not only change of shape of the bony fœtal skull, but the peculiar change involved in the production of a shear. The power of the soft parts in producing nearly similar changes has been long recognised, for it is distinctly involved in the alterations produced in natural labour. Dubois, and after him Depaul and Budin, point this out, and refer to it as the source of the explanation of the difference between the heads of children born of primiparæ and multiparæ.† Stadfeldt also, "in opposition to Saxtorph, ascribes a greater influence to the maternal soft parts than to the pelvis" in producing changes of shape of the fœtal head. On this subject I have made some remarks intended to show the great influence of the perineum in altering the shape of the fœtal head.§

There can be no doubt that the bony pelvis may produce shearing of the fœtal head as it passes through; but this does not occur in natural labour. It may be observed in cases of contracted pelvis, in which the head has passed through the bony passages. In his original paper, already referred to, Dohrn speaks of the shearing of the fœtal head as if, under all circumstances, it were produced by the bony pelvis. This view is not tenable, and I have elsewhere described it in such terms. The change is most frequently and characteristically observed in what are called natural labours, where the bony pelvis can have only an indirect influence in its production, if any. In many primiparæ, indeed, the head remains so long on the perineum, and is so powerfully influenced by that part, that a shear produced in an earlier part of its course, before it emerged from the

^{*} On this subject generally, see some remarks by Macdonald, Edinburgh Medical Journal, August, 1878, p. 110.
† See Budin. "De la tête du fœtus au point de vue de l'obstétrique," p. 70.

[†] Monatsschrift für Geburtskunde, 1863, Band xxii. s. 464. § "Papers on the Female Perineum," 1879, p. 89. || "Mechanism of Natural and Morbid Parturition," p. 215.

outlet of the bony pelvis, would probably be obliterated before the head was born.

In my notes of a case of Cæsarian section, I find the following statement regarding the fœtal head as seen immediately after the operation: - "The child's head presents a caput succedaneum, which extends from the left parietal eminence, which it also covers, to the middle of the lambdoid suture of the same side. The left parietal bone overlaps the right. left parietal bone is considerably flattened. The right parietal is (apparently) of natural shape." Being familiar with the shearing of the head as seen in many ordinary labours, I can describe this one as closely resembling what is usually observed, with this difference, that there was no anteroposterior, but only vertical, shearing. In other words, the left parietal bone was flattened and depressed from above, not shoved forwards or backwards. The child's head was in the first position, arrested above the brim of the pelvis, to which it was not very firmly adpressed.* The woman had reached the full term of pregnancy, and had been in labour for fully two days. The uterine body was retracted above the head. The cervix was dilated; its external os to the size of a florin. The pelvic brim was reniform, its conjugate measuring nearly 11 inch.

It is to be observed that the shear here observed is a vertical shear, not that want of symmetry resembling an antero-posterior shear, which Stadfeldt describes as occurring "physiologically," as found in the fœtus in utero before labour begins, and as owing no dependence on any physical deforming cause arising in the course of labour. This asymmetry of Stadfeldt I have not myself inquired into sufficiently so as to be able to express any opinion regarding it. Budin does not describe it. Olshausent denies the accuracy of Stadfeldt's description and rejects it altogether.

The occurrence of only vertical or nearly vertical shearing

^{*} For other particulars of the case, the reader is referred to the Medical Times and Gazette, November 2nd, 1878, p. 509.

† "Ueber die nachträgliche Diagnose des Geburtsverlaufs," &c. Volkmann's

Sammlung, S 12, s. 64.

in this case is in accordance with the simple and easily understood physical conditions in which the head was placed. These were different from those producing the compounded vertical and antero-posterior shear, that occurs so often, in the latter part of the progress of the head in a natural labour. Here there was only one direct line of pressure, downwards and backwards, the straight line of the pressure of the powers of labour, and the resistance was from the brim of the pelvis and adjacent parts. The production of the compound shear of natural labour is much more complex, yet not difficult to comprehend. The powers of labour in the case under discussion were applied to the head in, or nearly in, the direction of its vertical axis, and produced a vertical or nearly vertical shear.

The flattened left side lay upon the brim of the pelvis and on that side also was the caput succedaneum. The chief resistance to the head was in the brim of the pelvis. The right parietal lying on the lowest part of the wall of the abdomen, descended as a whole farther than the left. In these respects the shear resembles the vertical shear in a natural labour, and the mechanism in the two cases is analogous. In both the left is flattened because in both the left experiences the greater resistance to movement.

In the caput succedaneum there is a contrast with what is observed in natural labour, and this shows, what is on other grounds plain, that a caput succedaneum owns causation quite different from that of a shear. In ordinary labour the caput succedaneum rises on the anterior side of the presentation, that on which there is a condition of negative pressure, so far as regards the fœtal surface, that which is not flattened. In our present case the caput was on the posterior side, the flattened side, for there, in this case, was the negative pressure, not on the anterior; the open cervix uterus being under the left or flattened side.

Lastly, it is to be observed that in the equitation of bones there was a coincidence with the caput succedaneum, a circumstance which may indicate sameness of causation. In ordinary labour, in the first position, the right or anterior parietal generally over-rides the left. Here the right was

depressed below the left. In ordinary labour the caput succedaneum is on the right or over-riding bone. Here the caput succedaneum was on the over-riding bone, when it was the left. As in the case of the shear, so the equitation of bones was produced without intervention of pressure from bones constituting the pelvic passage.

REMARKS ON TWO CASES OF VESICULAR MOLE.

By CLEMENT GODSON, M.D., M.R.C.P. Lond.

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It is not often that the opportunity occurs of observing at the same time two patients suffering from uterine hæmorrhage due to the threatened expulsion of a vesicular mole. It happened, however, in August of last year that there were under my care two women in the ward at St. Bartholomew's Hospital, both of whom presented symptoms of this disease, though their history in many points was very different.

CASE I.—M. B., aged twenty-nine, married fifteen months: one child born five months ago, was delivered with instruments, and born dead. She continued to lose blood slightly for six weeks after her confinement, she then menstruated twice regularly, the last period finishing on May 8th. Soon afterwards she experienced morning sickness. On July 17th, about ten weeks after the last menstruation, she lost blood suddenly in the morning, and she had five attacks of hæmorrhage during the next three weeks, but for the last fortnight she has been losing incessantly. Lately her abdomen has increased greatly in size. There is no pain whatever. When seen by me, on August 12th, the abdomen was found considerably distended, and a well-defined swelling occupied the hypogastrium, reaching almost to the umbilicus, dull on percussion over it, resonant elsewhere. To the touch it felt precisely like a gravid uterus. The vaginal examination discovered the cervix to be shortened and the os uteri patulous; on bimanual palpation the tumour was found to be the enlarged uterus.

A fluid drachm of extract of ergot, with four minims of liquor strychniæ in an ounce of peppermint water was ordered to be taken every four hours. On the following morning, August 13th, distinct labour pains set in, and an hour afterwards a mass of cysts, connected, was expelled, which filled a large wash-hand basin. There was no appearance of a fœtus. The abdominal swelling disappeared. Very little bleeding occurred subsequently. The following day the pulse was 140, and the temperature reached 104° F. No rigor. Two grains of quinine were administered every four hours. Next day the temperature had dropped to 100° 3, and the pulse to 100. The discharge was slightly fetid. A carbolic douche was used. A week subsequently the patient was convalescent.

CASE II--E. H., aged twenty-seven, has had three children, the last ten months ago. She nursed for five months, but the catamenia were regular notwithstanding, and continued so up to four weeks ago, when the last period commenced, and she has never since ceased to lose blood; during this month she has had morning sickness, and her abdomen has got very large. She thinks she feels fœtal movements. Pulse and temperature normal. Has very little, if any, pain.

On August 13th, when examined, the abdomen presented the same appearance as described in Case I. The tumour was clearly the enlarged uterus. On auscultation no sounds could be heard.

On August 15th awoke at 5 A.M. in great pain, and shortly afterwards a large vesicular mass was expelled, with a considerable amount of blood. Next day the temperature was 100° F. On the following day the discharge became fetid, and the temperature reached 101°.7. The carbolic douche was used, and two grains of quinine given every four hours. In a week all discharge had ceased, and the patient was convalescent.

CASE I. presented the symptoms usually found in connexion with this disease. There was an arrest of the catamenia for ten weeks, with morning sickness; then symptoms of threatened abortion occurred, and the abdomen rapidly increased in size, while the mammæ presented no signs of pregnancy.

I accordingly expressed my opinion that the uterus probably contained a vesicular mole, and I ordered ergot to be given with a view to expel it. My assistant, Dr. Stacey S. Burn (to whom I am indebted for the notes of the cases) remarked that there was not the doughy, boggy feeling so strongly put forward by Dr. Leishman as "in the highest degree characteristic" of this diseased condition. I replied that I had never observed this peculiar feeling.

CASE II. did not present such characteristic symptoms. The woman had been perfectly regular, and had shown no symptoms of pregnancy till the last month, when sickness occurred, with rapid enlargement of the abdomen, throughout which time there was a continual loss of blood. No uterine souffle, and no fœtal heart could be heard. The cystic mass had just been shown me from Case I., and it perhaps gave me the notion that this might also be of the same nature. As far as the appearances of the swellings were concerned, they were identical. The suggestion having been made, we examined carefully to see if we could obtain any doughy or boggy sensation, and we were obliged to agree that "a firm, resisting swelling," the term which I had applied to it, must stand without alteration. Playfair, in his work on "Midwifery," quotes Dr. Leishman's words relating to the feeling of the tumour, but he does not confirm it. Dr. Leishman is too accurate an observer and too graphic a writer to describe in wrong terms what has come under his notice, but I would suggest whether the cases in which this sensation was discovered were really typical ones, whether they were not of an abnormal character. If so, it is a pity that too much stress should be laid upon this feeling, for it will be apt to mislead rather than to assist in the diagnosis, and it is important to determine, if possible, with a view to the administration of ergot. In Case II. the villi of the chorion appear to have taken up the abnormal growth and development very soon after their formation-before, indeed, there was time to suspect, from the arrest of the catamenia, that conception had occurred. This is unusually early; the period

at which the degeneration commences is believed to rarely, if ever, extend beyond the tenth week, the time mentioned in Case I., when the first abnormal signs were noticed.

I think it a pity that the term hydatid should still be employed. Leishman says: "In several cases of hydatids we have found the ergot of rye quite satisfactory." The expression is misleading, and there are, therefore, many who have paid but little attention to the subject, who fancy that it is the same disease which attacks the liver. The name was given from ignorance of the pathology of the disease, and it should be discarded now that we know the error. The term vesicular mole, which has been since given to it, is sufficiently descriptive and correct.

POST-PARTUM HÆMORRHAGE AND MODES OF TREATMENT NOT GENERALLY KNOWN FOR CONTROLLING AND ARRESTING IT.

By G. DE GORREQUER GRIFFITH, L.R.C.P.,

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WITHOUT any prelude as to various methods of treating this affection, I will cite a case which occurred in my practice some years ago, and by which I was first taught the expedient that I then adopted. Mrs. C., aged about twentyeight, was in labour with her third child, when I was called to attend her: she was strongly built, bright, florid complexioned, and brave-hearted, having no fear for herself in her labour. The child was born naturally, but rather quickly; the secundines came away easily, and the uterus contracted nicely. I was getting the binder ready when, as I looked at her, she rapidly turned white, and was evidently getting into a state of excessive faintness; she did not speak; she did not even utter a cry; a heavy sigh escaped her lips; and she lay apparently lifeless. I thought she had died suddenly.

Suspecting hæmorrhage, I quickly laid my left hand on the abdomen in order to grasp the uterus, while with my right I raised the clothes. A stream of bright-coloured blood had suddenly flowed from her, and more was freely pouring away from the vagina. At once, without letting go my grasp of the womb, I lowered her head, turned her as gently as possible on her back—she had been on her left side—and when she was in this position I embraced the womb with both hands, making it contract somewhat, and moderating, though not checking, the flow. I saw my patient was fast sinking, and thinking that sudden anemia of the brain, or sudden failure of the heart, from want of proper blood stimulation of the cardiac nerves, owing to excessive and rapid blood loss, would be the occasion of death, and feeling the aorta thumping at my hands, as it labouringly pumped on the blood, I bethought me of the treatment which I adopted. The very action of the great blood vessel striking my hand forcibly, suggested to me to try the tourniquet principle on it, and thereby arrest the bleeding, and the death, apparently, speedily imminent. Accordingly I buried my hands in the abdomen, working my fingers amongst the intestines, till I could well encircle the aorta: this done, there was an effectual arrest of hæmorrhage. I maintained the compression, till I found that the bleeding did not return on relaxing my hold, that the uterus was firmly contracted, and that the colour had come—even though very faintly—back to the patient's face. She drew a few long breaths; she sobbed a few times, opened her eyes, looked languidly around as though she were unconscious of what had occurred, and was not aware of her present condition; and thus slowly she returned to life.

Very carefully I bound her up, and had her carefully tended all that night and for many succeeding days; and she recovered with not a bad symptom, the protracted convalescence and the peculiar bleached waxy hue, which results in all such cases, being the only apparent consequences of her narrow escape.

Ever since I successfully attended this patient, when I am confronted with profuse blood loss, sudden faintness, or any other symptoms calling for treatment identical with what I pursued in this case, I do not hesitate to put the same into execution. In some cases it is not practicable, as, for instance, when the person is stout, there being a thick

tegumentary covering of fat; or where the omentum is loaded with adipose tissue; or where the abdominal walls are large, loose, and pendulous; or where excessive pain is felt from the manipulations necessary for the aortic compression; I, in these cases, grasp the uterus as firmly as I can, and by means of it I compress the artery against the back, thus substituting the uterus for the hands, as the compressing medium.

This plan, when I could not employ the former, I have found to act very beneficially.

When the patient is thin, the aorta will readily be commanded; and in some with even greater facility than with others: and there are persons in whom the abdomen being large, and the integument loose, the uterus can be readily turned out of the way, and the aorta easily encircled.

Where the aorta cannot be compressed directly, or where the entire uterus cannot be made the direct medium of compression, as in the manner I have described, I would introduce the hand in utero, not alone to act as an uterine irritator, but in order to compress the aorta from within the uterus, and with only the intervention of the posterior uterine wall. For this purpose I would employ the right hand, as being in every way more adapted for use.

Another method is, to introduce the left hand into the rectum, passing it as high up as may be needful to command the entire uterus, and to employ an effective force, directed from above downwards and forwards, while the right hand, placed externally on the abdomen, compresses the womb from above downwards and backwards, the two hands, thus acting consentaneously on the organ, compress it between their simultaneous grasp, thereby arresting the blood flow, and at the same time stimulating the uterine muscular coat to natural contractions; thus in two ways preventing dilatation of the womb.

In parenthesis I would refer to a case which was some time ago brought under my notice; it was one of placenta prævia, in which the medical attendant having turned, delivered the body of the child; the head stuck fast in the pelvis; severance of the body from the head was made; but

the head it was found impossible to remove, and the woman speedily died.

In reviewing this case—which was related to me, but which I did not myself witness—it has occurred to me that the great difficulty which was experienced in steadying the head in utero after the body had been parted from it, might be obviated best by introducing the left hand in recto, getting it over the womb, as it enclosed the undelivered fœtal head; then, having passed the right hand, bearing between the fingers the perforating scissors, into the vagina, and directly against the presenting part of the head, the hand and scissors together being put into rotatory movements, while the hand in the bowel steadily fixed the head, the boring would be effected, perforation completed, the hands withdrawn, the cephalotribe applied, the head crushed and withdrawn.

Or instead of the operator's left hand being placed in the rectum, that of a skilful assistant might be employed, leaving the operator's two hands free for using the perforator in the ordinary manner.

The hook may sometimes be required after the perforation has been made; and, if your left hand be in recto, while with the right you grasp the hook fixed in the child's skull, the two hands acting consentaneously—each guiding the other—you may use expulsive force with the left hand, while the right exercises traction; and thus the double-hand combination will effect the delivery.

I believe we do not at all sufficiently utilise the rectum as a way of usefulness and an open road of power; a way of which in these, and in many other cases, powerful advantage may be taken—a pathway always ready to our hands, of diagnosis and of prognosis; of remedial measures, and often of curative; a pathway I consider too frequently forgotten, neglected, or considered not worth using, both by physicians in medical cases, by surgeons in surgical, and by gynæcologists and obstetricians in their particular branches. And in this opinion I am sure I am well sustained by Mr. Spencer Wells, by Dr. Priestley, by Mr. Maunder and Mr. Teevan; by Dr. Broadbent and the late Professor Simon of Heidelberg.

Notices and Reviews of Books.

A Treatise on the Science and Practice of Midwifery. W. S. Playfair, M.D., F.R.C.P., &c. Second edition. Smith, Elder, & Co. Pp. 393.

THE popularity which has been attained by Dr. Playfair's excellent work is well attested by the exhaustion of an unusually large impression of the first edition, and the appearance of a second after an interval of only two years. After so short a period, no extensive changes have naturally been called for; but the present volume shows evidence of careful revision, and contain some improvements and additions of importance, though the size of the book is extended by only eight pages.

The first point of novelty to be noted is in the account of the physiology of normal menstruation, and the changes of the uterine mucous membrane during the menstrual cycle, in which the result of the recent researches of Engelman, Williams, and others are now included. The author, who, in his first edition, appeared evenly balanced between the theory of the transudation of blood in menstruation through the unbroken walls of the capillaries, and that of the rupture of the vessels by the exfoliation of the mucous membrane, not merely its epithelial covering, now definitely adopts the latter view. In the description of the structure and development of the placenta is also included the result of recent researches upon the histology and comparative anatomy of that structure. A due prominence is here given to the view of Professor Turner, whose investigations of the placentæ of certain animals, in which a commencing stage of dilatation of the maternal vessels appears to be seen, have brought such powerful support to the view more commonly held that there is a circulation of maternal blood through the so-called placental sinuses. A new description is given of the changes in the uterine vessels which are detected after recent or longpast pregnancy—a subject which may be of the highest medico-legal importance; and a figure, after Williams, is

introduced, illustrating the microscopic appearance of a section of a uterine sinus nine weeks after delivery.

As to the question whether primary gastrotomy should be performed in a case of extra-uterine foetation at full term when the child is living, the author, while regarding the question as not yet finally determined, still holds that the tendency of medical opinion is rather in favour of immediate operation. He quotes, however, in his present edition the statistics of Dr. Parry, and his very positive conclusion that "the primary operation cannot be too forcibly condemned. It is not too much to say that this operation adds only another danger to a life already trembling in the balance, which the delusive hope of saving the uncertain life of a child does not warrant us in assuming." Dr. Playfair here justly points out that in these days of advanced abdominal surgery a better result might be anticipated than when gastrotomy was performed in the haphazard way which was usual before we had gained experience from ovariotomy.

On the question of early operative interference in tedious or difficult labour, Dr. Playfair maintains his earnest but carefully guarded recommendation of a more early and frequent use of forceps than has hitherto been usually the custom, but only in cases of simple inertia, when the head is low in the pelvic cavity, the os uteri is fully expanded, and all that is wanted is a slight vis a fronte to supplement the deficient vis a tergo. He admits, however, that he had estimated too highly in his former edition the saving of infantile life following more frequent forceps delivery, and no longer quotes in favour of that practice the statistics of Dr. Hamilton, of Falkirk, being convinced that the conclusions which had been drawn from them are open to doubt. A striking instance of the occasionally fatal results to the mother of the prolonged inaction which was considered the correct practice in former days, is added in an account of the death of the Princess Charlotte of Wales, based upon a letter from Dr. John Sims to the late Dr. Joseph Clarke, of Dublin. To Tarnier's new forceps, which have attracted considerable attention since the appearance of the first edition of the work, an engraving and a description are devoted; but the author's opinion of the instrument is summed up in the sentence that it is much more complex than that usually employed in this country, and does not seem to possess sufficient advantages to counterbalance this defect.

Among other recent improvements noted for the first time in the present edition are the use of hot-water injections into the uterus in post-partum hæmorrhage, the subcutaneous injection of ether in the same condition, and Roussel's apparatus for immediate transfusion. The author considers that though this instrument possesses many undoubted advantages, and is, beyond doubt, a valuable addition to our means of performing the operation, it yet has the great disadvantage of being costly and complicated, and hence he does not believe that it is likely to come into general use. He is still inclined to prefer the plan of defibrination, under which method transfusion becomes one of the simplest of surgical operations, and can be performed with implements always easily procurable.

In the matter of engravings, a notable addition and improvement will be found in the present edition. In the former plates illustrating the mode of application of forceps an attempt had been made to show the position of the fœtus and of the blades of the instrument, in addition to the external view. Insuperable difficulties of perspective, and consequent inaccuracy, were the result. For these are now substituted figures which simply show what might be seen by an actual observer. Among other additions are figures after Turner and Foulis, illustrating the structure and development of the ovary, and plates representing specimens of tubal fœtation, and of tubo-ovarian fœtation at term.

Abstructs of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, January 1, 1879.

Dr. Charles West, President, in the Chair.

At the annual meeting of this Society, notwithstanding the inclemency of the weather, and the reputation of the day for social gatherings, there was a goodly muster of Fellows. The Treasurer's audited report showed that the receipts for the past year were 935l. 8s. 6d., including a balance of 139l. 15s. 1d., brought forward from 1877; the expenses included a balance in hand at the present date of 180l. 12s. 5d., an increase of 40l. during the year. The amount of stock in the three per cent. consols possessed by the Society is 1221l. 6s.

It was proposed by Dr. Edis and seconded by Dr. Wiltshire, that the audited report should be received and adopted; and the

proposition was carried unanimously.

The Librarian's report stated that the Society had acquired the obstetrical portion of the library of the late Dr. Blundell, consisting of 342 volumes, some of the sixteenth, principally of the seventeenth and eighteenth centuries, 258 of which were not already in the Society's library. The remaining eighty-four duplicates were offered to the Fellows for purchase, and forty-seven had been disposed of in this way. Extra bookcases and shelves had been provided; and the library now contains 2660 volumes. Upon the proposition of Dr. Aveling and Dr. Daly, it was carried unanimously that the Librarian's

report should be received and adopted.

The new laws, as proposed by the Council, were then submitted to the meeting by the President. He stated that the laws would not be retrospective, and that the chief alterations proposed were those to abolish the Honorary Presidentship and the Corresponding Fellowship, and to make the Council the final referees as to the advisability of reading a paper, or of its publication in the *Transactions*. Other changes were mostly technicalities, or had been introduced in order to smooth the working of the machinery of the Society. Chapter I., as adopted, arranges for the election of men only as Fellows, so as to prevent, at any future date, the possible nomination of Lady Fellows. In accordance with Chapter II., ordinary Fellows will be elected, as is the case in the Royal Medical and Chirurgical Society, by lists sent beforehand to all the resident Fellows. All the proposed rules were unanimously adopted.

The President then read the Address which appears in the pre-

sent number of the OBSTETRICAL JOURNAL.

Mr. Spencer Wells, in eulogistic terms, proposed a vote of thanks to the President, which was seconded by Dr. Playfair, and carried with acclamation.

Dr. West, in reply, said that in his work he had simply endeavoured

to carry out Dr. Meade's motto, "Non sibi, sed toti."

The election of the Officers and Council for 1879 was declared to be unanimous, as were all the other proceedings of the evening, the balloting list of the Council being adopted in its entirety. The following were the officers elected :- Honorary President : Dr. Arthur Farre. President: Dr. William S. Playfair. Vice-Presidents: Drs. James Braithwaite, Arthur W. Edis, John Baptiste Potter, George Roper, Robert James Wilson, Alfred Wiltshire. Treasurer: Dr. Henry Gervis. Honorary Secretaries: Drs. John Williams and Clement Godson. Honorary Librarian: Dr. Galabin. Other Members of Council: Drs. R. S. Fancourt Barnes, Percy Boulton, Robert Cory, Frederick Henry Daly, James Matthews Duncan, William Carter Hoffmeister, William Hope, C. Dudley Kingsford, Thomas Savage, William Smiles, Thomas James Walker; Messrs. John Wright Baker, John S. Bartrum, George Eastes, Frederick Heudebourck Gervis, George Ernest Herman, and Alfred George Roper.

Dr. Gervis proposed a vote of thanks to the retiring members of the Council, which was seconded by Dr. Heywood Smith, carried unanimously, and acknowledged by Dr. Aveling, one of the retiring

Vice-Presidents.

OBSTETRICAL SOCIETY OF EDINBURGH.

Meeting, Wednesday, 10th July, 1878.

Dr. Wilson, President, in the Chair.

Mr. Donald M'Raild, F.R.C.S., Greenock, was admitted an

Ordinary Fellow.

Dr. James Young exhibited a "Polycotyledonary Placenta" which had an extra cotyledon attached at a short distance from the general placental mass, by a thin membrane. The patient was a

primipara. There was only one child.

Dr. Peel Ritchie exhibited a "Cord" with a knot upon it. He observed he would not have brought it before the Society had not he recently met with two instances of knotting which presented some features of difference, but agreed in the length of the funis being greater than the average. In the one shown the cord measured forty-two inches, and at delivery was twice coiled round the child's neck. The knot was fourteen inches from the umbilical end, and consequently close to the neck of the child. The movements of the feetus in this instance had been very lively during the whole of the latter half of pregnancy. Sex male. In the other instance the funis was forty-five inches long, and at birth four coils of the cord were round the child's neck; but in this one the feetal movements were

so very gentle that the mother more than once supposed the fœtus was dead. Sex female. From this it might be deduced that it was the excessive length of the funis rather than the unusually active movements of the fœtus which led to its coiling round the neck and

to the formation of the knot upon it.

Dr. CRAIG exhibited a "Portion of the Small Intestine" which had passed through a ring formed by a small band of lymph and had become strangulated. This band of lymph was attached to the ascending colon and also the ileum. The constriction was so tight that water could be forced through it only with great difficulty. constricted portion of bowel was of a dark-purple colour, such as is often seen in strangulated hernia. The most interesting feature of this case is the fact that it was complicated with pregnancy at the ninth month. The patient was a young married woman, æt. twentyfour, strong and healthy, and expected to be confined of her first child at the end of the present month. She was in her usual health till seven P.M. on Saturday, 6th inst., when she suddenly felt very unwell and went to bed. For several hours she had severe pains every few minutes, and both she and her friends thought she was in labour. I saw her about eleven o'clock on the same evening, and on making a vaginal examination found that the os was high up, that the cervix was elongated, and that no presentation could be made out, as the os had not begun to dilate. I administered two grains of opium, and ordered another grain to be given three hours afterwards if the vomiting and pain continued. I again saw the patient about six o'clock next morning, and found that the pain and vomiting had continued all night; but the os was still high up and had not begun to dilate. I now ordered powders containing morphia and bismuth, and also ordered some morphia suppositories. I next saw the patient about midday, and found that the pain and vomiting had both considerably abated. About seven P.M. the same evening I was sent for, and found that the pain and vomiting had both increased, that the pulse was quick and flickering and scarcely perceptible at the wrists, that the extremities, especially the hands, were very cold, and that the patient was in a state of collapse. The condition of the os uteri was the same as before; the bowels were loaded with fæces; the abdomen was tender to the touch, but not tympanitic to any great extent. The uterus was lying to the left side, and the skin of the abdomen immediately over it was somewhat dis-No fœtal heart could be heard. I now sent for Professor Simpson, who happened to be out of town; but Dr. Keiller kindly came and saw the patient with me. By the time Dr. Keiller saw her she was quite pulseless at the wrist, and no pulsation could be felt in either the carotid or subclavian arteries. She suffered The catheter was passed by Dr. occasionally from delirium. Keiller, and a small quantity of urine was drawn off. It was natural in colour and contained no albumen. An enema was also administered, and a quantity of fæces was brought away.

Keiller ascertained that the child was presenting naturally, and that labour had not yet commenced. He could not detect any sounds of the fœtal heart. He recommended that brandy and tea should be administered at short intervals. Labour commenced on Monday morning, about five A.M.; and shortly after midday she was delivered of a dead female child. The child had been dead for some days. The placenta came away easily a few minutes after the birth of the child, and, though the patient was now quite conscious, within five minutes afterwards she was dead. There was no hæmorrhage, and the uterus contracted well. Stimulants were administered every fifteen minutes during the labour, but the pulse never returned to the wrists. The post-mortem was made in the presence of Dr. Keiller, Professor Simpson, Dr. Craig, and Mr. Barbour. About twenty ounces of sanguineous fluid, mixed with pus, were contained in the peritoneal cavity. The uterus was normal and quite healthy. Dr. Craig promised to give a full history of this interesting case to a

future meeting of the Society.

Dr. Keiller remarked that when he saw Dr. Craig's exceedingly interesting and very unusual case, he had experienced no common difficulty in diagnosing its true nature. The symptoms as stated by Dr. Craig were those indicating extreme collapse, and although examination failed to trace the patient's painful and evidently sinking condition to her advanced pregnancy or pending labour, still it was not easy to disassociate them at the time, and, indeed, although there could be little doubt as to the prognosis, the features of the case were such as to render it almost impossible to pronounce an accurate diagnosis during their brief course. The post-mortem examination cleared up the mystery as to the cause of the death in this case, and at least proved that the views he had expressed regarding the state of the uterus and child were correct. The deeply seated and singular nature of the intestinal strangulation so far accounted for our not clearly making out the exact nature of the case during life. Dr. Keiller further remarked that the peculiar symptoms which the patient presented so reminded him of some rare cases he had witnessed of embolism occurring in the pregnant state, that such a possibility passed through his mind while investigating this important case, which he considered well worthy of being minutely recorded, and which he was glad Dr. Craig had resolved to do on a future occasion.

Dr. Buist exhibited a "Uterus" from a patient aged twenty-eight, who died nine hours after delivery from cerebral hæmorrhage. Patient had suffered from renal disease, with albuminuria.

Dr. Hamilton of Hawick communicated, through Dr. Croom,

the following "Notes of a Case of Placenta Prævia:"-

On the morning of 10th May, at 9.30 A.M., I was sent for by a midwife to see a woman she was attending in labour, in whom "flooding" had set in. I immediately went to her assistance, and on arrival found that the patient, a strong, robust woman, had suffered from hæmorrhage to a slight extent at intervals for a week.

History.—The patient was said to be in her seventh month of pregnancy. This was her fifth confinement, and the only one in which there had been anything abnormal. She had enjoyed excellent health until the week previously, when flooding began without any assignable cause. The bleeding only occurred when she felt life. So far as she remembered, she had sustained no injury. The night previous to my seeing her, she had felt slight pains, with a little more bleeding. The midwife was then summoned, and remained with her during the night. There had been comparatively little hæmorrhage until the time I was sent for. At that time, I was informed by the midwife, there had been a prolonged pain, with a great amount of bleeding. That there had been a considerable amount was evident

from the state of the bed and the condition of the patient.

Examination.—I at once made an examination to ascertain the condition of the cervix and parts. I found the os dilated sufficiently to admit one finger. The cervical canal appeared about one and a half inches in length and rigid. The vertex could be felt presenting through the placental mass. There was no oozing of blood. I at that time lowered the head, removed some of the bed-clothes, had the room kept cool, and gave an opiate, after remaining a short time. I ordered a little beef-tea, nearly cold, and acidulated drinks to be given at intervals. I then left, asking to be sent for at once should pain or hæmorrhage occur. I visited her at 9.30 P.M. From the time I last saw her there had been no pains and very little bleeding. The os was sufficiently dilated to admit two fingers; cervix flabby. Dr. Brydon saw the patient with me an hour afterwards; during the hour the first distinct pain since the morning had occurred, with a great amount of discharge. The pulse was 120, regular. On examination per vaginam the doctor found the os and cervix in a state similar to what I have described, but he felt the vertex high up without anything intervening. I also examined and was no little surprised at the great alteration since my previous visit. The placenta was overlapping at the posterior margin of the os internum. The liquor amnii had partially escaped. There was almost no discharge of blood. We determined on plugging the vagina and allowing the os to dilate gradually. I removed and replaced the plug three hours afterwards; there had been during the interval little hæmorrhage and no pain nor change since my previous visit. She was now left under the care of the midwife, with directions to be sent for should any bleeding occur. At 9 A.M. the following morning she had a pain, with severe hæmorrhage. I was with her in a few minutes, and found that the plug had been expelled and hæmorrhage going on to an alarming extent. The pulse was very rapid. There was giddiness and all the symptoms of severe and sudden hæmorrhage. I at once made an examination, and found the os dilated to admit three fingers, the cervix soft and flabby, blood running profusely. I gave two drachms of liquor ergotæ, applied the forceps, and made traction sufficient to wedge the head in the brim. The bleeding then ceased. In a few minutes there was a powerful pain, which, with the full use of the forceps, was sufficient to deliver a living child. I firmly compressed the uterus, and with a little traction on the cord the placenta came easily away. The hæmorrhage continued. On inserting the hand into the uterus I found a part of the placenta attached to the anterior margin and surface. I detached it, and allowed the hand to remain in utero until there was contraction, which soon followed. One ounce of brandy with one drachm of liquergotæ was given. There was no further hæmorrhage. No unfavourable symptoms followed. The patient is making an excellent recovery. The child lived forty-eight hours.

Notes.—Until within ten hours of the completion of the labour, this case presented all the features of an ordinary one of placenta prævia. At that time the accident occurred to the abnormally-placed placenta, which made this case one of interest. Nature, striving to clear herself of the liquor amnii, and to hurry labour to the end, ruptured the placenta. An examination of the placenta showed the cause of the rupture, and Nature's preparation for it. That part of it which in situ would correspond to the os internum was thinned and dark in colour. The maternal surface was a little smoothed, the

smoothness extending about one inch across.

Dr. Keiller had not followed very clearly the case as detailed in the paper. In regard to the treatment generally of these cases, he thought it well not to trust so much to Nature when we have ample means of artificially dilating the os, and thereby terminating the case readily and safely. Only two days ago, in an out-case from the Maternity Hospital, to which he had been called by a pupil, where bleeding was going on and the os not much dilated, artificial dilatation by an indiarubber bag was adopted, and the patient delivered by turning in about half an hour. Dr. Keiller, in further remarking on the proper management of cases of placenta prævia, did not pretend to say that every precaution was not taken to terminate the present case safely and well, but he was anxious to express his own view on this very practical question—a question which had been so recently, and indeed so often, before this Society, that the attending Fellows ought to be conversant with it. The point he specially now desired to insist upon was the important one of terminating such cases as speedily as possible, and for this reason that it was very seldom necessary to wait either on a certain degree of dilatation, or even of ample uterine contraction. Many lives were sacrificed or endangered by waiting for and trusting (as we ought to do in most other cases) to the ordinary natural efforts. He had long since learned the lesson—a lesson not yet generally understood—that the accoucheur need have little dread of the uterus failing to contract, even in cases where it may be desirable to evacuate its contents before Nature's usual time. The presence even of pains was not essential to the securing of contraction of the uterus. To those who have not as yet had the courage to trust the wonderful hollow

uterine muscle, as he had often, this observation may seem dangerously strange, but nevertheless it would be found to stand the practical test of experiment; and if so, why wait either for the os uteri opening up when we have simple and certain and safe means of expediting it? and why not empty its cavity at any time when such is required to save life, and which can be done, especially in cases like the present, without the dread of non-contraction? Dr. Keiller strongly expressed the view he thus entertained, and cited

cases illustrative of the truth of his present remarks.

Dr. Macdonald agreed with Dr. Keiller in his principles of treatment. Had seen a case of placenta prævia a fortnight ago. The case was one of only partial presentation, os only admitted one finger. He decided, on seeing the patient, at once to deliver, although the dilatation was less than he had found in any case of placenta prævia he had seen before. On introducing the bags, he was astonished at the rapidity with which the dilatation was accomplished. Barnes's bags were used, and within two or three hours delivery safely effected. He thought this method at once safe and efficacious, and ought to replace all others. The proper treatment in all these cases was at once to deliver, whether pains were present or not.

Dr. Keiller warmly homologated the last remark of Dr.

Macdonald's in regard to the necessity of speedy delivery.

Professor SIMPSON thought that, in regard to the majority of cases, dilatation by hydrostatic means was the best treatment, but he would be disinclined to tie the hands of all practitioners from adopting other methods of treatment. It struck him while the paper was being read that he would have felt inclined to adopt forcible dilatation in this case, although he must allow that one was in a less favourable position to judge of a case by merely hearing it read than by actual observation.

Professor Lusk, of New York, had been in the habit of using the tampon, and thought it most useful, and in many cases quite a safe method of treatment. It gave time for the fuller dilatation of the os and the progress of the labour. He found that after this plan the os usually became fully dilated, and turning and other methods of delivery were easily effected. He was frequently in the habit, however, of using dilating bags, as he had been much struck with the successful cases treated in this way, as recorded in the practice of Spiegelberg of Breslau, and others.

Dr. Charles Bell agreed with Dr. Macdonald in regard to treatment, with the exception of the advocacy of Barnes's dilators. He preferred the air-bags, which Dr. Keiller had the merit of first suggesting, to those of Barnes, as being less likely to give trouble by dropping out. In the case that had been read he thought turning

would have been more appropriate than forceps.

Dr. Keiller naturally enough sympathised with Dr. Bell's observations and opinions regarding the so-called "Barnes's bags," seeing

that he had very special, and he thought well-grounded, reasons for preferring his own caoutchouc dilators, which he in varied forms had used, and first exhibited to this Society about twenty years ago, before "Barnes's bags" were conceived or brought forth. Dr. Bell was right in saying that these lost their "fiddle shape" when distended with water, and were thus rendered not only bulky but heavy, and very apt to fall out of their place, which was not the case with the more simple and equally efficient air-dilator, which he had long ago introduced, and still continued to use in preference to any other kind hitherto proposed for obstetric purposes. Dr. Keiller further remarked that he now generally used an ordinary thin, soft, and therefore readily dilatable, indiarubber pessary, and such as could be easily enough introduced into and through the os, or even up into the lower part of the cavity of the uterus, where it could be made to act either as a tampon or as a dilating bag, according to the circumstances or the necessities of the special case in hand.

Dr. Menzies mentioned a case of placenta prævia which had occurred in the practice of a friend of his. The child was delivered with difficulty by turning on account of contracted brim. Patient

died immediately before delivery was effected.

Mr. Southon exhibited a new form of abdominal bandage, and

made the following remarks:—

In introducing this abdominal bandage to your notice, I would just briefly enumerate the advantages I believe it to possess over appliances of a similar nature now in use.

1st. It is extremely simple, both as regards construction and method

of application;

2ndly. It gives adequate support from below upwards; and,

3rdly, It is durable, inexpensive, and exceedingly comfortable to the wearer.

A single glance at this bandage will be sufficient to demonstrate the simplicity of its construction and the method of application.

The material used is chiefly "jean," lined with twilled calico, and bound at the edges with soft twill binding. In describing it, we may divide the bandage into three portions—the front, and two sidepieces or straps. The former has the shape of the abdomen below the umbilicus; pieces of flexible whalebone being inserted from the upper to the lower border, at intervals of about an inch and a half, to give it the required convexity. On either side of, and about an inch from the point, two strong flat hooks are fastened to the lower margin. These are for the attachment of the ends of the side-pieces or straps. The lower border has a tape run in it in such a manner that by pulling upon the ends a greater degree of convexity may be attained. The side pieces are two long straps of variable length, about two and a half inches broad at one end, and gradually tapering to about an inch at the other. Those at the broad end are fastened on either side of the front by two pieces of strong elastic webbing, each an inch wide, and respectively two and two and a half inches long. Towards the small end of each strap are a number of circular eyelet holes. These are to fasten the strap to the hooks on the front. In the left-hand strap, about an inch from its broad end, is a longitudinal slit, through which the right-hand strap is passed when in situ.

In applying the bandage—which should be worn over the undergarment of the patient—it is simply necessary to place the front upon the abdomen, with the point resting on the os pelvis, then pass the straps around the body, the right-hand one beneath the left, until it emerges from the slit in the latter; both are then carried down to the hooks in front and secured. Care should be taken that the straps and tape are drawn sufficiently tight, so as to give the required support, which, in every case, should be from below upwards.

The surgeon, in applying the bandage, must be guided by the condition of the patient as to whether the straps shall lie upon, above, or below the crest of the ilium, as it is evident that if the abdomen of the patient be large and very rotund, above the crest will give the best support, while, on the other hand, if small and flat, below the

exterior superior spine will meet the case.

Experience has proved these bandages to be very durable, considering the material from which they are made—that is to say, when worn constantly, they last from two to three years. They are, comparatively speaking, very inexpensive, and may be supplied to the profession at 7s. 6d. each, by Mr. Young, Surgical Instrument Maker, 58, North Bridge, Edinburgh. The surgeon, when ordering a bandage, should give the following measurements:—Round the body, just above the crest of the ilia, and from the umbilicus to the os pubes.

In no one instance has the patient wearing one of these bandages complained of uneasiness arising from its use, but, on the contrary, the general expression has been that they are most comfortable, delightfully easy, and exceedingly beneficial. They may with justice be recommended in cases of uterine weakness, where support is needed for the parts, and the relief experienced is sometimes immediate and marked. In tumours of the uterus, and in the pregnancies of weak women, they have been found exceedingly useful.

In one instance, a lady who had habitually miscarried at the sixth or seventh month was enabled to carry the fœtus to the full term,

and had an easy and safe delivery.

In conclusion, I might say that these bandages have been in use in private practice for several years, and the advantages of them fully demonstrated. It is true, other abdominal appliances have equal claims, as far as utility is concerned, but they have generally been found either complicated, expensive, or impracticable; whilst this bandage has the merits I have claimed for it—of being simple, cheap, and useful.

Professor Simpson thought the bandage a useful one. He had applied one which Mr. Southon had kindly lent to a patient in his

ward, who wore it with much comfort.

Dr. Keiller had frequently used a bandage of a similar nature, although larger and broader. He thought the hook at the lower part a useful improvement. He considered the comparatively light and narrow bandage now exhibited and described by Mr. Southon a most excellent one, and would give it a trial. He described a form of bandage he had also been in the habit of using with trousers attached, and promised to show it and others to the Society at a future meeting.

Dr. Macdonald would be glad if this proved a good bandage, as he had found great difficulties in procuring such appliances of a useful

and satisfactory pattern.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, June 8th, 1878. Dr. Darby, President, in the Chair.

New Midwifery Forceps.

Dr. Kidd.—I wish to bring under the notice of the Society a new pair of forceps, being the most recent development of that instrument with which I am acquainted. It has been devised by an old pupil of mine, at the Coombe Hospital, Dr. Anderson, who is now practising in Liverpool. He supposes that it combines the merits of Simpson and Barnes' curved forceps. I have, however, on many occasions laid before the Society my own reasons for preferring a straight instrument. It will be seen that Dr. Anderson adopts Simpson's handle in contradistinction to Barnes', but has omitted the plan Simpson was so fond of in all his instruments, of having them roughened to indicate the direction of the curve. In some other points also, whether accidentally or not I do not know, Dr. Anderson's differs from both Simpson and Barnes' forceps. The cephalic curve is much less than in either, and the distance between the points of the instrument when closed is little more than three quarters of an inch, instead of an inch, as in the others. On the whole, I think the new instrument will prove slightly more dangerous to the child, as it will compress the head more than that of Simpson's or Barnes', but the horned handles may induce the operator to hold it near the joint, and so lessen the pressure.

Uterine Tumour.

Dr. KIDD exhibited a large tumour, which had been removed by Dr. Thornley Stoker from a patient in the Richmond Hospital three days before, and said he was indebted to Dr. Stoker not only for the opportunity of showing the tumour, but for frequent opportunities of seeing and examining the patient before the operation. The case

was one the diagnosis of which involved a good deal of difficulty. To him, at least, the difficulty was very great, and he was ready to confess that, in the end, he did not feel able to give a definite opinion as to what the tumour really was. When he first saw the case he thought it was an ovarian tumour; but, after repeated examinations, he doubted the correctness of that opinion. However, he saw at once that whether it was an ovarian or a uterine tumour, it was rapidly killing the patient, and that it was necessary it should be removed. The tumour when removed weighed 12½ lbs. As it now lies on the table it seems to spring from the anterior portion of the fundus of the uterus, and encroach a very short way downwards on the anterior wall. The remainder of the uterus is free; when a finger of one hand is passed into the cavity, the posterior wall and the posterior part of the fundus become prominent, so that with the other hand placed externally these parts, as well as a portion of the anterior wall, can be felt, apparently unaltered in shape, size, or consistence. The anterior part of the fundus and upper portion of the anterior wall gradually expand into the mass of the tumour. There is no line of demarcation between them, no point at which it could be said the uterus ends and the tumour begins. The body of the tumour is round, perfectly smooth, and covered with highly-polished serous membrane. In consistence it is soft and elastic, and gives to the finger a deceptive feeling of fluctuation, as if it were a thick-walled cyst containing fluid. So marked was this that, when the tumour was first exposed, those who were nearest to it exclaimed -" It is ovarian; there is the cyst;" and it was only when the trochar had been twice plunged into it, they admitted it did not contain fluid. At the upper and anterior portion of the tumour an outgrowth springs from it, which stands out abruptly, with a sharply-defined angle, and has attained a size somewhat exceeding that of a fully-developed feetal head. This outgrowth presents, in even a more marked manner, the deceptive feeling of fluctuation. On the posterior and left side there is another prominence, more gradual in its growth, and having the appearance as if the tumour had gradually sunk into and moulded itself to some depression in the posterior wall of the abdomen, and perhaps this may have served as a sort of pivot, and so account for some of the peculiar and puzzling movements of the tumour when under examination. No sections have yet been made, so the exact nature of the tumour has not been determined. It is probably

When the patient was examined, as she lay on her back in bed, the abdomen was found to be filled with, apparently, two tumours, one large mass filling the lower portion, but not sinking down into the pelvis, formed of the body of the tumour as now seen, and at the region of the umbilicus and above it, the smaller tumour, formed of the anterior outgrowth. The posterior prominence on the tumour was not recognised before the operation. The small tumour could be moved with great facility from side to side of the abdomen. It

moved across the whole of the right side, but not so far to the left, and always returned to the mesial line from whichever side it had been carried. These movements seemed to take place independently of the large tumour; no motion could be felt in it by the hand, placed on the surface of the abdomen, and the first impression was that there were two separate and distinct tumours, one of which moved freely and the other not; but on passing the finger into the vagina the tumour could be felt, although very indistinctly, in the anterior cul-de-sac, lying in front of the body of the uterus; and when the small tumour was moved, it was discovered that the large tumour moved with it. It was thus established that instead of there being two tumours there was but one. This was the first point attained in the diagnosis. It was evident that there was a single, apparently fluctuating tumour, and that its pedicle was sufficiently long to admit of a very considerable amount of rotatory movement, and that the surface of the body of the tumour was so smooth as to allow of its moving freely without its being possible to detect the movements through the abdominal walls. Dr. Kidd said he had had experience of these conditions in several instances in ovarian tumours, but never before met with them in the case of a uterine tumour. Some years ago, he said, a patient went the round of the Dublin hospitals, who had a large abdominal tumour, with, apparently, a small tumour lying above the umbilicus. The small tumour moved so freely about that Dr. Tufnell, in describing its motions, said he could shoot it from side to side like a weaver's shuttle. The large tumour seemed not to move with it; at all events, no movement could be detected. The woman was twice in the Coombe Hospital, having made a round of all the hospitals. The first time she was in the Coombe she was examined very carefully, not only by the hospital staff but by many others interested in such cases, and all who saw her were of opinion that there were two tumours. After a considerable period, she came back in a dying condition, and died in the hospital, when it was found that she had but a single tumour, with an outgrowth on its upper portion; that it was an ovarian tumour, with a pedicle so long as to admit of free rotatory motion, and that the cause of her death was that it had revolved on its pedicle, and so twisted it that the vessels were strangulated, and the tumour sphacelated. The full particulars of the case are to be found in the Proceedings of the Dublin Pathological Society. This case presented a very similar appearance. The small tumour could be shot from side to side, while the movements of the large one -at least until after repeated examinations-could not be felt. He had in the course of his experience seen but three cases presenting similar characters, and they all proved to be ovarian tumours; and, indeed, it seemed difficult to understand how any other form of tumour could have a pedicle sufficiently lax to admit of such a degree

Many of the other characters of the tumour now under observation favoured the impression that it was an ovarian one. There was an apparent fluctuation, quite as distinct as is found in many ovarian tumours, and so deceptive as to have induced a physician, under whose care she had been, to tap. It is true no fluid was obtained, but this is not infrequent in colloid and some other ovarian tumours. When asked as to the history of the growth, the patient described it as having begun low down and to the left side—not to have arisen on the mesial line, but to have grown from the left side, and gradually risen into the abdomen. This also corresponded with the character of ovarian tumours. On passing the sound into the cavity of the uterus it was found to be of normal length, measuring exactly two and a half inches, and its position was almost normal. It was probably a little thrown backwards, but was certainly neither retroflexed nor retroverted. The cervix, when examined from the vagina, appeared to be normal, no enlargement of it being detected. Its position was normal, and also its length. A fulness could be felt in front of the cervix, in the anterior cul-de-sac of the vagina; but this could not be identified with the uterus; and with a finger in the rectum and a sound in the uterus, with its point directed backwards, the whole of the posterior wall and the fundus of the uterus could be traced free from enlargement of any kind, as can still be done as the tumour lies on the table. Menstruation was normal. There had never been any flooding or excess of menstrual discharge, such as is ordinarily found in connexion with uterine tumours. That, of course, chiefly applies to tumours which press on the mucous membrane; for tumours pressing on the peritoneal surface are not, as a rule, attended with very profuse menstruation. When the stethoscope is applied over large uterine tumours a murmur, closely resembling the placental murmur, is often heard. It has been asserted this murmur has been heard in cases of enlargement of the ovary, but this is by no means established, and at all events there was no murmur to be heard in this case. For so far, the evidences are pointed to the tumour being an enlarged ovary, but the further examination threw a doubt on the conclusion—and, indeed, puzzled the observers not a little.

Usually when a sound is passed into a uterine movable tumour, the handle of the sound moves with the tumour when this is rolled from side to side. If it is rotated from right to left, the handle of the sound moves with it from right to left, and, in fact, follows it in all its movements. In this case it was invariably found that when the sound was in the uterus and the tumour rotated in any direction, as could be very easily done by pushing the anterior outgrowth from side to side, the handle of the sound moved in the opposite direction in a most marked manner. This was to all the observers a new feature—one that had never before been met with. As the tumour lies now on the table, the explanation is obvious enough. The prominence low down on the posterior wall, which had sunk into a space at the side of the spinal column, and formed as it were a socket for itself, then served as a central pivot, on which the tumour rotated; and so, when the

upper part was moved from right to left, the lower part went in the opposite direction and the sound with it; but during the examination the existence of this pivot was not known, and the explanation that offered itself as most feasible and most in accordance with the evidence already obtained as to the ovarian nature of the tumour, was that some adhesion had formed between the ovary and the posterior wall of the uterus, when the tumour began to form, and still lay in Douglas' space, behind the uterus, and thus the theory that the tumour was ovarian and not uterine was rather strengthened and not upset by the rotation of the handle of the sound. At a subsequent examination, however, he found that by a careful manipulation the lower portion of the tumour could be moved, and that the handle of the sound moved in correspondence with the movements of this portion. This at once upset all the preconceived theories as to the nature of the tumour, and led him to withdraw the rather decided opinion he had previously expressed as to its being an enlarged ovary and not a uterine growth. Perhaps no further doubt as to its being a uterine tumour should have been entertained; but it was difficult to arrive positively at this conclusion in the face of the evidence previously obtained. Nor did it seem desirable to subject the patient to much further examination, and in this doubtful position the diagnosis was left. It was evident, however, that the tumour was killing the patient. From the time of her admission into the hospital her circumference had increased nine inches. Ascitic fluid was beginning to form in the peritoneum, and the woman was evidently dying rapidly. When asked his opinion by Dr. Stoker, he declined to say definitely whether the tumour was uterine or ovarian; but he had no hesitation in saying it was killing the patient, and that an operation would be perfectly justifiable, provided she were willing to undertake the risk. He warned him, however, that if he determined on the operation, he should go to it prepared to remove the uterus itself. Accordingly, the patient having consented, the tumour was removed on Thursday last. The details of the operation will I hope be published by Dr. Stoker himself. Suffice it to say, the patient has gone on since without an unfavourable symptom, and has all the appearances of being about to make a most satisfactory

Dr. Atthill.—This patient was not only seen by me but was in hospital under my care for several weeks, and I think on three different occasions. From the first I entertained grave doubts as to the exact nature of the case, and, accordingly, I temporized, and took the course of sending her out of hospital for a month and admitting her again. The comparatively rapid growth of the case and the absence of anything like abnormal or increased menstruation, together with the apparently well-marked fluctuation, inclined me naturally to the opinion that I was dealing with an ovarian tumour. But when I came to examine the case and passed a sound into the uterus—the condition of which has been accurately described by Dr. Kidd—I

found that the tumour and the uterus moved together, and that they were attached. The question was then resolved to this-either I was dealing with an ovarian tumour attached to the uterus, or with a uterine tumour proper. I told the pupils of the class the exact difficulties of the diagnosis, and said to them: - "We will make an exploratory tapping." Accordingly, I drove a large-sized needle more than two and a-half inches into the tumour, and obtained absolutely nothing, and hardly even a drop of blood. I was then satisfied that the tumour was solid, or nearly so. I had been previously satisfied that it was attached to the uterus. I recollected a case, which made a deep impression on my mind, of a somewhat similar description, in which there were well-marked fluctuations and absence of any menstrual disturbance, which was exhibited by the late Dr. Beatty at the meeting of the British Medical Association, in Plymouth, and which proved to be a large fibro-cystic tumour attached to the posterior wall of the uterus by a very short and thick pedicle. I came to the conclusion that I was dealing with a somewhat similar tumour, probably fibro-cystic, for I could hardly believe that there was not some fluid in some portion of the tumour. The last time I saw the patient in the Rotunda Hospital I did not think her a fit case for an operation, and discharged her, but asked her to return. She, however, sought admission into another hospital; and when I saw her again the greatest change that I noticed was the increased development of the smaller tumour. Although I refused to operate at the time, and still would not like to have operated, I think that, when the tumour was killing the patient, Dr. Kidd was justified in advising and Dr. Stoker in performing the operation.

Dr. MACAN.—This case opens up the whole question of the diagnosis of fibro-cystic tumours. I had an opportunity of examining the patient in the Rotunda Hospital, and I was present when she was tapped, and nothing drawn off. As well as I remember the diagnosis seemed pretty certain that it was a case of fibrous disease of the uterus. The tumour was, however, so hard, that I differed with Dr. Atthill as to the idea that any fluid would be got from it. But the most interesting point is that, although this large tumour was growing from the uterus, the latter was still almost of the normal size; and Dr. Kidd will, perhaps, remember that he saw a case resembling the present, in the City of Dublin Hospital last winter. It was a case in which, after a most careful examination, I came to the conclusion that the swelling was a multilocular ovarian tumour connected with the uterus by adhesion, and Dr. Kidd agreed with me; and yet the case turned out to be one of fibro-cystic disease of the uterus. Our reasons for the opinion at which we had arrived were, that the uterus was not enlarged, and that there was no history of menstrual disturbance or menorrhagia. There was the additional fact that the tumour was very fluctuating. I regret that that case was not tapped, for I look on the tapping of such cases as a great aid to diagnosis. If we are to believe American writers, the obtaining

or not obtaining of fluid from these fibro-cystic tumours will often enable us to make a diagnosis. It is stated by an American writer that the fluid obtained from these fibro-cystic tumours is like blood, and coagulates when exposed to the air. Another interesting point is how far an examination conducted with the whole hand or the half hand in the rectum enables you to ascertain whether the tumour, though it may be clear of the fundus, is adherent to the uterus in front. The tumour I examined, and which was operated on in the City of Dublin Hospital, arose from the uterus by a very small pedicle, and was certainly a fibro-cystic tumour, as was ascertained by the postmortem examination, and also had an outgrowth. It was from these complications in the pelvis that I considered it adherent to the uterus. In that case a symptom that Dr. Kidd made out was that, when the sound was passed into the tumour, the whole tumour was lifted towards the diaphragm, and the sound also went up along with Absolute diagnosis between these two kinds of tumours is almost impossible in some cases; but, as well as I remember, in the present case, when in the Rotunda Hospital, there did not seem to be a doubt that the case was one of fibro-cystic disease; and the getting no fluid by tapping was an important aid to the diagnosis.

Dr. Kidd.—Tapping does not afford conclusive evidence that a tumour is not ovarian. I have myself tapped tumours and obtained no fluid; and yet, when those tumours were removed, they proved to be ovarian. In the first case of ovariotomy ever performed in Dublin I tapped the tumour, which was surrounded with ascitic fluid. The trochar went into the peritoneum, and the ascitic fluid escaped; but when it was driven into the tumour no fluid escaped. It was a colloid tumour; and when the tumour is of that character no fluid may escape; so that I do not attach much importance to the

non-escape of fluid.

On Puerperal Remittent, or Septicæmic Fever.

By Surgeon-Major Joseph Johnston, M.D., Army Medical Department; in Medical charge of the Dublin Hospital for Soldiers' Wives.

Ever since the middle of the last century septic infection has been recognised as a fertile source of puerperal disease, and the pyrexia, or febrile expression of the systemic intoxication it produces, has been described by various authors as a remittent or an intermittent type of puerperal fever. It is to this form of remittent fever I would now beg to invite the attention of this Society, and, in doing so, I shall endeavour to avoid re-opening for discussion the debatable subject of puerperal fever in general.

The main object of this paper is to present to you the records of a few cases of this puerperal septicæmic fever, illustrated with temperature charts, which will exhibit, at a glance, and more clearly than any description, the remarkably remittent type of this affection.

This fever is the result of one or more of those accidental occur-

rences with which child-bearing is associated, and is not, unfortunately, at the present time—whatever it may be in the future—altogether unavoidable, either in hospital or private practice. But, although poradic in its origin, it becomes, I believe, freely communicable to others, and may develop into severe and fatal disease. The history of the outbreak of some epidemics of puerperal fever, in private practice as well as in hospitals, appears to favour this view; and, probably, no stronger evidence on this point could be desired than that of Dr. Robert Collins, who, in his work on Midwifery, page 386, states that "Dr. Joseph Clarke observed that previous to puerperal fever becoming epidemic in the hospital, patients recovered more slowly; or, to use the language of the nurses, it was much more difficult to get them out of bed than usual. This, from experience," he says, "I have no doubt is the case." The corroborative testimony of two physicians of such eminence is very suggestive, and appears to me to admit of the inference that in such instances there existed amongst the patients a febrile condition similar to the one now under consideration, which ultimately exploded into fatal disease.

Dr. Burdon Sanderson, in his recent Lectures on the Infective Processes of Disease,* has shown that, "as regards peritonitis, if the exudation of a simple peritonitis be injected fresh into the peritoneum of another animal, the disease assumes a more intense form in the second than in the first; that if in this way the disease be communicated to several animals" in succession, "at last a virus is obtained of which the virulence resembles that of the specific cases of malignant peritonitis in the human subject." And he adds: "Experiments like those to which I have referred, which show how, by a gradual evolution, we may rise from traumatic infectivity to the intensified virulence of malignant septicæmia, teach us what we could not learn

otherwise.

M. d'Espine, in his monograph on Septicæmie Puerpérale, has further demonstrated, by careful experiments on the lower animals, that the injection of the filtered lochia of an infected puerperalpatient produced septicæmia and death. The proof of infectibility is therefore before us, in the most indisputable form, and if we substitute "accidental for intentional selection," we can readily account for the propagation of septicæmic poisoning in the puerperal state.

All who are conversant with septicæmia are aware of the remarkable fluctuations of temperature that characterise this affection; and the late Dr. Stokes, whose loss we have so recently had occasion to mourn, describes—at page 197 of his classic work on Continued Fever—a type of fever he has observed amongst puerperal women, which he

calls Simulative Ague.

His words are as follows:—"There are, doubtless, many other instances where a local irritation excites a fever, which, for a time at least, has all the characters of a true intermittent. Puerperal women

^{*} British Medical Journal, Feb. 9th, 1878, p. 181.

are liable to this disease; I do not allude to the true puerperal fever, but I have often known women soon after childbirth to be attacked with well-marked tertian or quotidian fever, in whom it was difficult, or impossible, to discover any local disease of importance. In some there had been an abortive irritation, as it were—perhaps some tenderness of the uterus, which had been removed by treatment; or, in others, a tendency to inflammation of the breast—but these had sub-

sided, and the intermittent fever persisted."

Dr. Playfair recently published a case of puerperal septicæmia with high temperature and distinct daily remissions. The case is worthy of brief notice. He says that on the tenth day of the illness, "and on each subsequent day, there was a distinct remission in the morning, when the temperature reached its lowest point, and the pulse improved; the temperature beginning to rise again at 1 P.M., reaching 104° or 105° by 3 P.M., and the pulse becoming extremely rapid and feeble." Having failed to observe any distinct antipyretic effect from large doses of quinine and salicylic acid, and the continued use of cold for several days, he adds:-"Being struck with the marked remittent type the fever had now" (fifteenth day) "assumed, I determined to try the effect of a remedy of high repute in India in the worst cases of malarious remittent fevers, and the most marvellous effects of which, in such cases, I had myself witnessed many years ago when in India."* This was the well-known Warburg's Tincture, which produced profuse sweating, and reduced the temperature from 104° to 99°, and the pulse from 140 to 96 within seventeen hours.

In the exhaustive discussion "On the Relation of Puerperal Fever to the Infective Diseases and Pyæmia," which took place at the London Obstetrical Society in 1875,† Dr. Richardson is reported to have said:—"I have seen another form of puerperal fever (many will recall similar cases), of what may be called a remittent character, with slight symptoms of jaundice; twice I have seen this coming on with

high fever in the puerperal state."

I shall neither weary you nor burden this paper with extracts from the innumerable authors who have, of late years, written on puerperal fever, but shall ask your forbearance whilst I make two quotations from two very able observers in the last century. Dr. Leake, of the Westminster Lying-in Hospital, published an essay in 1772, entitled "Practical Observations on the Childbed Fever." The remittent character of some cases he describes as follows:—"Sometimes there was a manifest remission of the symptoms, but when that was not attended with a universal sweat, or copious discharge of turbid urine, it was seldom lasting; in short, when the secretions are only partially promoted the crisis is imperfect, and the patient is subject to relapses." Again—"Others were affected" (during convalescence) "by a slow

^{*} British Medical Journal, Nov. 17th, 1877. + Obstet. Trans., vol. xvii. p. 125. ‡ Syden. Soc. "Dis ases Peculiar to Women," p. 136.

remitting fever, with great loss of strength and dejection of spirits." And at page 201, after describing the successful treatment of a remittent case in the latter stage with bark, he continues:—"From what may be observed in the foregoing history it does not appear eligible to wait for a distinct intermission of this fever, lest a severe attack of the febrile paroxysm should in the meantime carry off the patient. I think a remission of the symptoms, especially if attended with any critical evacuation, is, in general, sufficient to justify the liberal and immediate use of the bark."

In 1775 Dr. Butler published a monograph entitled, "An Account of Puerperal Remittent Fevers as they appear in Derbyshire," &c.* He says:—"The pulse is low, small, sometimes sharp, and generally beats about a hundred and thirty pulsations or more in the minute during an exacerbation. There is in some cases an offensive smell about the patient, unless the room be kept cool, the linen often changed, and sometimes the whole bedding. Sometimes the breasts are swelled, hard, and very painful, and sometimes the womb is affected with inflammation; but both cases are accidental, and not necessarily connected with this fever. There is an irregular, feverish exacerbation once or twice a day, and sometimes oftener. The paroxysm is preceded by a violent rigor, much oftener by a chilliness without tremor, and sometimes the hot fit comes on without any sense of coldness. . . . These exacerbations are usually terminated by sweats, which are sometimes partial, sometimes general, but never critical, and tend more to debilitate than relieve the patient."

The following is a case which I consider to be a typical one of an uninterrupted convalescence after childbirth. So many circumstances, however, influence the temperature in the puerperal state, that it is an extremely difficult task to obtain, in a single case, a series of daily

observations uninfluenced by disturbing causes:-

Mrs. K., aged twenty-seven, was delivered of her second child (male) at 11.30 A.M., 21st January, 1874. In the evening her temperature was 99°4, and the pulse 60 per minute. The following morning the temperature had fallen to 98°4, and the pulse had risen to 64. During the night of the 23rd, the temperature rose, with the secretion of milk, and attained an elevation of 99°6 on the morning of the 24th. A slight elevation of temperature was observed for three days, the rise occurring in the morning, and the fall in the evening. On the evening of the 26th the temperature fell to 98°4, and the febrile condition—if such it could be called—consequent upon, or coincident with, the engorgement of the breasts from the rapid secretion of milk, was at an end. The pulse in this case presented that diminished frequency which is so often observed in the puerperal state, and has been described as an evidence of shock.

It is not unusual to observe, as in this case, a morning rise and an

^{*} Syden. Soc. "Diseases Peculiar to Women," p. 337.

evening fall in the temperature during the third, fourth, and fifth days, but more frequently the rise takes place in the evening, and the fall

in the morning.

The following six cases of puerperal septicæmic fever have occurred in my hospital and private practice during the last eight years. They were, with the exception of the first, accurately observed and recorded at the bedside. They may also, in some degree, be considered as selected and typical cases of the remittent form of this fever, as my other cases are incomplete, and therefore devoid of character:—

Case I.—In January, 1870, my attention was particularly absorbed in a case of childbed fever, in the treatment of which I had the able advice of my friend, Dr. Kidd, and of the late illustrious physician, Dr. Stokes. I regret that no notes were recorded during the progress of the case, but I can, even now, recall its most prominent

features.

This lady was delivered by me of her fifth child (male) on the morning of the 1st January. The labour was easy and natural, but the perinæum was slightly fissured. On the afternoon of the 3rd, soon after the bed-linen had been changed, she shivered and became very feverish. There was no local pain. During some days we noticed very marked remissions in the fever, and that the temperature rose to 104° and 105° during an exacerbation, of which there were two in the twenty-four hours—viz., one about noon, which was followed by a slight remission within a few hours, and a second late in the evening, which terminated towards morning, by perspiration, in a decided defervescence of about three degrees. The lochia were normal, and there was no diarrhæa; but the secretion of milk, which was at first abundant, became suppressed during the illness.

On the day this patient shivered, one of her children sickened, and finally passed through a slight attack of scarlet fever. A second child

subsequently suffered from shedding of nephritic epithelia.

In early life our patient had passed through a severe attack of scarlet fever, but throughout this illness we could not observe any symptom of that disease. A few years previously she had resided in India, but had never shown any symptoms of malarial fever. It was, however, thought by us that this duplex remittent type of fever might have a malarial sustaining cause, whatever the initiative or exciting one had been, and we therefore agreed to try the effect of quinine. Thirty grains were accordingly administered in two doses in the afternoon and evening of that day, and on the following morning we had the satisfaction of finding our patient with a temperature and pulse almost normal. There was no subsequent return of the fever, but a localised pelvic cellulitis ensued, which terminated in an abscess. This cellulitis may have existed in a very limited form from the outset of her illness, even although it was not detected until the progress of the fever was arrested. I have, however, no doubt that this was a case of auto-infection, and that the double quotidian type of fever was caused by the malaria which existed in the patient's system.

Many of you may recall similar instances where inflammatory affections have developed intermittent forms of disease in those who have resided within the tropics, and may not, whilst there, have manifested any symptom of malarial infection. Subsequent observations have, however, led me to attribute less value to the supposed malarial factor in this case than I did at the time, as I have since then witnessed cases in which there had been no exposure to malarial influence characterised by equally high recurring flights of temperature, and one, at least, in which they were considerably in excess of any observed in this instance. I have not, however, met with a second example of this double quotidian in the puerperal state, but Wunderlich makes the remark that, in remittent diseases of great intensity, "if the exacerbations are duplicated from the very commencement, the type of disease is generally mixed, and of itself affords grounds to suspect complications."*

This case would be incomplete were I to abstain from mentioning what I witnessed after the administration of the second dose of quinine, which was in excess of its requirements. It caused great debility and irregularity of the heart's action, and the patient sat, supported in bed, for more than half an hour, gasping for breath, and in an agony of

despair.

Another case fainted when she came under the influence of quinine; and Pereira mentions that dangerous consequences have been recorded by Bouchardat from the use of large doses of this drug.†

CASE II.—Is an example of the quotidian type of puerperal re-

mittent.

Mrs. T., aged twenty-one, was delivered of a girl on the morning of the 3rd November, 1876. Head, first position; natural labour; first stage, five hours; second stage, one hour; third stage, five minutes; fourth pregnancy. On the morning of the 5th a dose of castor-oil was administered, and during the forenoon she had a succession of rigors, followed by high fever, pain in the brow and vertex, pain and tenderness in the lower part of the abdomen, pains in the back and limbs, and great prostration. The lochial discharge was natural, and not fetid, and the breasts were moderately distended. By evening her bowels had been freely moved, and I gr. of opium, with liq. acet. ammoniæ mixture, was then ordered every fourth hour. Poultices were applied to the abdomen.

6th.—Had little sleep. The pain and tenderness over the uterus still exist. Temp. 106°; pulse 136. Evening.—The headache and pains in the limbs have gone; the abdominal pain has extended to the left iliac region, and she feels chilly. Temp. 101°4; pulse 100.

7th.—Morning temp. 103° 2; pulse 116. She sweated last night; the headache and pains in the limbs have returned, and the milk is insufficient for the infant. In the afternoon the temperature rose to

^{*} New Sydenham Society, p. 239. + "Materia Medica," vol. ii., Part. ii., p. 131.

106°.2, and the pulse to 140. At 8 P.M. the temperature was 105°.2,

and the pulse 136.

8th.—Morning temp. 100°·6; pulse 102. Rigors at 2 P.M. At 4 P.M. the temperature was 106°, and the pulse 120. At 8 P.M. they were 104°·6 and 120. The lochia were pale, but in sufficient quantity; not fetid.

9th.—Sweated last night; temp. 99°, and pulse 80. Is quite free from abdominal pain and tenderness. Evening temp. 105°8;

pulse 120.

10th.—Morning temp. 104°8; pulse 116. Evening temp. 105°4;

pulse 120.

All pain has subsided. To have five grains of quinine in solution every four hours; opium to be omitted. After this her convalescence was uninterrupted, except on one evening when there was a flush of temperature. By the morning of the 13th she was quite deaf from the quinine, and smaller doses were subsequently administered. Diarrhœa was troublesome for some days during her convalescence, but this was finally arrested by a dose of the extractum ergotæ liquidum and liquor morphiæ hydrochloratis. On the morning of the 16th the temperature was 98°, and the pulse 68.

Case III.—Is also an illustration of the quotidian type, but with a somewhat lower range of temperature, and presenting, during the

first few days, less decided remissions.

Mrs. H., aged twenty-six, was delivered of her first child, a male, at 5 A.M., 29th April, 1875. Head, first position; first stage, four hours; second stage, one hour; third stage, fifteen minutes. The perinæum was ruptured, and the edges were brought together with two carbolised sutures. The infant was cyanotic, and died at 2 A.M., 1st May.

May 2nd.—She had a rigor in the evening, after which the temperature rose to 106° 2, and the pulse to 134. There was headache,

but no abdominal pain.

3rd.—Morning temp. 104°·4; pulse 124. There is tenderness over the uterus, and the abdomen is tympanitic; the lochia are scanty and fetid. The uterus was syringed with Condy's solution, and the subsequent treatment was similar to that pursued in the preceding case. In the evening the temperature was 104°, and the pulse 118.

4th.—Morning temp. 102°; pulse 112; lochia very fetid; syringed uterus with Condy's solution; drew off the milk from the breasts,

and strapped them. Evening temp. 104°.8; pulse 120.

5th.—Morning temp. 104°; pulse 120. The abdominal pain and tenderness have subsided. Omit pills and begin quinine. Evening temp. 104° 4; pulse 120.

6th.—Slept well; temp. 100°6; pulse 100; lochial discharge pale,

but no longer fetid. Evening temp. 105°.4; pulse 120.

7th.—Morning temp. 103°6; pulse 118. Evening temp. 104°2; pulse 120.

8th.—Morning temp. 100°.6; pulse 96. Evening temp. 105°.2;

pulse 120.

9th.—Morning temp. 101°·2; pulse 98. Shivered in the afternoon, and the abdominal pain and tenderness returned. Poultices were reapplied, and opium administered. Evening temp. 105°·8; pulse 128.

10th.—Morning temp. 98°·2; pulse 80. Sweated last night, and is now deaf from quinine. Discontinue medicine. Evening.—Had

slight shivering in the afternoon; temp. 105°4; pulse 126.

11th.—Morning temp. 100°.8: pulse 100. From this date there was a rapid convalescence, and on the morning of the 17th the temperature was reduced to 98°.4, and the pulse to 80.

Case IV.—Is also an illustration of the quotidian type, in which the oscillations of temperature have a much lower range than in

either of the preceding cases.

Mrs. B., aged thirty-three, was delivered of her first child (a girl) at 9 P.M., 26th December, 1873. The membranes ruptured early; first stage, eighteen hours; second stage, two hours; third stage, ten minutes. The expulsive pains were very strong, and the perinæum, which was rigid, was ruptured. Two carbolised sutures were inserted. On the evenings of the 28th and 29th the temperature rose to 100°; the lochia were in sufficient quantity, but slightly fetid. The vagina was syringed morning and evening.

On the morning of the 1st January, 1874, the temperature rose to 102°6; and, as the lochia continued fetid, I syringed the uterus with Condy's solution. A few mucous shreds and minute clots came away. In the afternoon she shivered, and the temperature rose to

104°.5, but the pulse was only 98.

2nd.—Morning temperature, 99°8; pulse 84. Evening temperature, 102°6; pulse 120. Ordered a mixture containing liq. ammoniæ

acetatis every two hours.

3rd.—Sweated profusely last night. Morning temperature, 100°.8; pulse 72. To have 5 grains of quinine twice a day. Evening temperature, 102°.8; pulse 98. She sat up for two hours in the afternoon.

4th.—Sweated last night, but was up and dressed by ten o'clock this morning. Morning temperature, 99°5; pulse 80. Evening temperature, 101°4; pulse 80. The defervescence continued daily until the 11th, when it reached 98°4. On the 12th she was discharged from the hospital. The temperature was 99°2 and the

pulse 80 on that morning.

Remarks.—This illustrates a very mild type of the disease, not more interfered with by treatment than was necessary to direct it towards a satisfactory termination; but it is one of those cases which are apt to escape observation if not under supervision in a hospital, where the evening exacerbations can be observed. The morning temperatures and pulse were usually low, and the patient then looked comparatively well.

Case V.—Is an example of the tertian type. The temperature in this case never rose to a high elevation, nor were the daily oscillations ever great, but the persistence of a mean daily temperature of 102° and a rapid pulse for several successive days caused me

much anxiety.

Mrs. M., aged twenty-six, was delivered with forceps of her first child (a girl), at 9.45 P.M., 11th December, 1873. Head, first position; first stage, 12 hours; second stage, 13 hours; third stage, 10 minutes. The expulsive pains were feeble, and the perinæum was ruptured during delivery. Two carbolised sutures were inserted.

12th.—Passed a sleepless night. Temperature, 100°8; pulse 120. Drew off urine. Liq. ammon. acet. mixture every third hour.

Evening temperature, 101°·2; pulse 120. Opiate.
13th.—Slept well. Temperature, 102°·5; pulse 120. Free from pain. To have an aperient and to continue the mixture. Lochia abundant and not fetid. Vagina syringed with Condy. Evening temperature, 102°5; pulse 134. Bowels not moved.—Repeat aperient.

14th.—Freely purged during the night. Motions dark and offensive. Lochial discharge copious and grumous, but not fetid. Syringed uterus. Morning temperature, 101°-4; pulse 115. Even-

ing temperature, 103°.8; pulse 134.

15th.—The skin is very sallow and exhales a most disagreeable earthy odour. Milk suppressed; lochia scanty. To have 5 grains of quinine every fourth hour. Morning temperature, 101°.8; pulse 114. Evening temperature, 103°:5; pulse 134.

16th.—Morning temperature, 102°4; pulse 108. Continue quinine. Evening temperature, 103°8; pulse 124. Is very desponding

and sighs frequently.

17th.—Had little sleep last night. Became very faint towards morning and broke into a copious perspiration. Is well under the influence of quinine. Passed urine for the first time unaided. To have 5 grains of quinine in the forenoon and afternoon. Morning temperature, 100°.8; pulse 104. Evening temperature, 101°.2; pulse 122. Opiate at bedtime.

18th.—Slept for three hours and sweated freely. Morning temperature, 102°; pulse 116. Evening temperature, 104°; pulse 120. Is very desponding and determined not to sleep, but wishes to die

and be in heaven by morning.

The tertian type of this fever was now fully established, and my patient appeared to be in a very critical state. Observing, however, that the thermometrical range had increased considerably under the use of the quinine, she was kept under its influence, whilst an effort was made to promote excretion by the usual channels. Opium was withheld, but a draught of hydrate of choral was entrusted to the nurse, to be given when there was any appearance of nocturnal wakefulness.

It will be observed on the chart that the highest temperatures were

recorded on the evenings of the 14th, 16th, 18th, 20th, 22nd, and 24th, and the lowest after the 14th, on the mornings of the 15th, 17th, 19th, 21st, 23rd and 25th. After this, as daily convalescence advanced, the time changed into a quotidian. Her recovery was not, however, complete till the 12th January, when the temperature had fallen to 98°4 and the pulse to 80.

This patient suffered severely for several days from diarrheea. After many fruitless efforts it was finally arrested by means of ergot

and morphia.

Remarks.—It is more than probable that the first stage of this labour, which lasted twelve hours, was exhaustive, as the patient appeared to be too feeble, during the second stage, to complete it without assistance; and I am more inclined to refer the cause of her subsequent illness to the bruising of the tissues during the first stage of the labour than to infection from anything that might have lodged in the uterus, or have come in contact with the ruptured perinæum.

The tertian type of septicæmic fever is not, in my experience, an unusual form among puerperal women; but this was the most characteristic, and, at the same time, the worst case that has fallen

under my observation.

Case VI.—Is a typical instance of a quartan remittent. It is the only case of the kind I have observed, and, like Case V., was protracted and severe.

Mrs. M., aged twenty-nine, was delivered of a girl at 2 A.M., 9th Oct., 1875. Head first position; first stage, 4 hours; second, 2 hours; third, 10 minutes. Fifth pregnancy, two of which were

abortions at the third month.

10th.—Had a severe rigor in the early morning, which was soon followed by headache and abdominal pain and tympany. The temperature shot up to 102°8 and the pulse to 136. A dose of castor oil and an enema were administered, and poultices were applied to the abdomen. After evacuation of the bowels 1 grain of opium was given every third hour. In the evening the temperature was 104°, and the pulse 136.

11th.—Less pain and tympany; lochia scanty, but not offensive; temperature, 103°4; pulse, 124. Continue opium and poultices.

Evening temperature, 104°.4; pulse, 120.

12th.—The pain and tympany have almost subsided. Continue pills. Temperature, 102°6; pulse, 116. Evening temperature, 105°; pulse, 130. The temperature this evening was the highest recorded during the progress of the case; but on the evenings of the 15th, 18th, and 21st, it rose higher than on any of the intermediate days, and fell much lower on the following mornings—viz., on the 13th, 16th, 19th, and 22nd, than on any of the previously intervening mornings. The tracings on the chart render this very apparent. During the night preceding the fall of the temperature recorded on the mornings of the 13th, 16th, 19th, and 22nd, she had either a profuse perspiration or a copious discharge from the bowels.

On the 16th, there was very little milk in the breasts, and in the

morning she shivered.

17th.—I had hoped, with the apparent tendency at crisis yesterday, to have watched the natural evolution of this case without interrupting its course by means of any antipyretic remedy; but, after the rigor of last night, and finding the temperature this morning at 102°.8, I ordered three 5-grain doses of quinine daily.

19th.—She sat up for two hours.

22nd.—Morning temperature, 99°8; pulse, 86. Is well under the

influence of quinine. Dose to be diminished.

During several days, towards the end of her convalescence, she suffered from diarrhœa, which was finally arrested by ergot and opium.

General Remarks.—The condition of the puerperal woman has been described by many authors as peculiarly favourable to disease; and the late Sir J. Y. Simpson* probably expresses this state and susceptibility as explicitly as any one in the following paragraph:— "During the puerperal condition," he says, "the blood is more loaded with new materials, intended, some for excretion, and some for secretion, than at any other term of life; and hence is specially liable to diseased changes under the superaddition of any exciting or septic causes. For the uterus, during the first weeks after delivery, is becoming involved and absorbed by a kind of retrograde metamorphosis, and the effete materials resulting from its disintegration necessarily first pass into the blood before they are discharged from the system. There is an excretory action going on in its interior in the form of the lochial discharge; and the elements for the formation of a new and important secretion—the milk—are present in the circulation." It requires a very trifling cause to interrupt these healthy processes and to induce febrile symptoms, and this cause has to be inferred rather from subsequent observation of the symptoms of the case than from anything noticeable at the outset. In analysing my cases, I am of opinion that, in all of them, the disease had probably a septic origin from within and not from without. The first case may be doubtful; but the patient's illness did not resemble, in any respect, scarlet fever, and the fissured perinæum afforded sufficient opportunity for self-infection by means of the lochia. In three of the cases the perinæum was injured during delivery, and in two of these the lochial discharge was fetid.

Offensive lochial discharge may be considered an evidence of disintegration of clots or tissues, and a sure source of infection; but recent observations and experiments have rendered it more than probable that healthy lochia may also be charged with septic poison, and only require an abraded or fissured surface for its absorption and the development of febrile symptoms similar to those I have narrated.

The experiments of d'Espine upon the lower animals have, ap-

^{* &}quot;Selected Obstetric Works," p. 355. By Dr. J. W. Black.

parently, put this beyond a doubt; for he has shown that the injection of filtered inodorous lochia has produced symptoms of puerperal toxæmia; and he has likewise proved to demonstration that the lochia of or about the third day are more infectious than that of later days, and, seemingly, from the presence of bacteria in the lochia about that time.

The recent lectures of Dr. Burdon Sanderson, in The British Medical Journal, "On the Infective Processes of Disease," are pregnant with valuable information relative to the infectivity of the lochial discharge, inasmuch as the presence of bacteria in healthy lochia must suggest the possibility of septic infection, provided there is a raw surface to admit of absorption. Without following his argument or producing his convincing evidence in support of the influence exerted by bacteria in changing fluids from an innocuous to a deleterious quality, I shall read to you what he calls the "fundamental proposition" of his lecture—viz., "That septicæmia is not due to the direct action of living bacteria on the blood and tissues."* He says, "Although bacteria are not the agents in septic infection, they are, nevertheless, the producers of the septic poison, and the mistake, if any mistake have been committed, consists in this—not in stating that bacteria are of pathological importance, but in asserting that because A produces B, and B produces C, therefore C cannot be produced unless A is present. It would, I think, be erroneous to say that the yeast-plant is the agent in the production of the evils of intemperance; and it is a mistake to say that bacteria are the agents in the production of septicæmia; but, just as if there was no yeast-plant there would be no drunkenness, so if there were no bacteria there would be no septicæmia."

In Cases II., III., and VI., there were abdominal pain and tympany; in II. and VI. there was severe headache; and in Cases I., II., V., and VI., the secretion of milk was either greatly diminished in quantity or quite suppressed. In Case V. there was a most offensive exhalation from the skin, which was sallow; and in Case I. a pelvic abscess formed. In all, the feverish symptoms were usually preceded by a feeling of cold or a distinct rigor. Sweating was of frequent occurrence at night, especially when there was an effort at a decided remission; but a crisis was only observed in Case I., and it was induced by the antipyretic influence of quinine. In four of the cases there was considerable diarrhea during convalescence, and the

evacuations were always offensive.

Cases I., II., and III., presented a very extensive daily range of temperature, but were not attended by the same intensity of physical and mental prostration observed in Cases V. and VI. This wide range was the cheering feature of the cases, and imparted a confidence in the ultimate safety of the patients which neither the pulse nor any

^{*} British Medical Journal, January 5th, 1878.

other condition afforded me. This is confirmatory of the experience of Dr. Clifford Allbutt in septicæmic fevers. He says, "Amid much that is obscure we may notice, as a rule, that disturbances having a high initial velocity are sooner expended than those in which it is lower."*

The temperatures were, as a rule, taken by means of self-registering thermometers placed in the vagina, as such observations are less liable

to error than those taken in the mouth or axilla.

Treatment.—At the outset the bowels were freely relieved by an aperient; and, if there was abdominal pain, opium was administered frequently and poultices applied until all tenderness had subsided. If the lochial discharge was fetid, or there existed any liability to absorption from decomposing uterine contents, or from ascertained or suspected injury to the uterus or vagina, the interior of the uterus or the vagina was freely washed out with tepid water, containing per-

manganate of potash.

Having shown you, on the authority of d'Espine, that the source of infection is always present in the lochia, from the second to the fourth day particularly, it is only necessary to recollect that an abrasion or injury of the uterine neck or vagina affords sufficient opportunity for the absorption of the septic poison. The vaginal mucousmembrane, if uninjured, appears to be incapable of absorbing this ferment; and it is highly improbable, from the observations of Dr. Atthill with iodoform, that it is at any time an absorbent surface. Blood-clots in the uterus, or portions of retained membranes or placenta, must necessarily be a frequent source of infection, from being in contact with the placental surface. The odour from such discharge will, consequently, attract immediate attention; but the inodorous lochia, teeming with bacteria and bathing the injured vagina with septic products may, however, equally infect our patient and produce alarming results. It is in those cases that frequent vaginal irrigation is productive of those happy results we observe in practice.

The practice of washing out the uterus and vagina with an antiseptic is one of the deservedly popular fashions of the present day; but it was frequently resorted to during the latter haif of the last century, and it seems surprising how it should have fallen into disuse. Dr. Barnes mentions that "it was practised and taught with success by Harvey."† Dr. Young, of Edinburgh, was also a strong advocate in its favour; and Dr. White says, "I must not omit to mention, in this place, the good effects I have experienced from emollient or antiseptic injections into the uterus. In those cases where the lochia have become acrid or putrid, and, by being absorbed into the circulation, have served as a constant fomes to the disease, I have by this means known the fever much assuaged, and, in many cases, wholly

^{*} Practitioner, January, 1874, p. 29. † "Obstet. Trans.," vol. xvii., p. 140.

extinguished; for though, as I have before observed, the quantity of the lochia is not to be much regretted, the quality of this discharge is

a matter of infinite importance."*

By correcting the quality of the lochial discharge the fever may often be cut short; but, in the cases I have narrated, such a happy result did not ensue, and the fever assumed the very marked remittent type so accurately described by Dr. Stokes, and so appropriately termed "simulative ague." It is in such cases, and after the subsidence of local complications, that the antipyretic effect of quinine is observable. Dr. Clifford Allbutt contributes a very valuable article on the antipyretic action of quinine in The Practitioner of January, 1874, in which he states that it is a very powerful antipyretic in the remittent pyrexia of septic absorption, but that it is preferable to moderate the paroxysms rather than attempt to suddenly interrupt them. And he makes this valuable observation with regard to the pyrexia of septic fever:-" It is certainly true, however, that small gains in daily temperature are very large gains in time, and that, as we descend the scale in daily temperature, we get largely-multiplied increments of immunity."

With the exception of the first case, I have never attempted to suddenly interrupt this fever, but have gradually brought my patients under the influence of quinine, with doses of 5 grains, administered at intervals of a few hours. The quotidian type is the most susceptible to the antipyretic influence of this remedy, even although the temperature range is higher than in the tertian or quartan form. It is, therefore, highly probable that the systemic intoxication is more

intense in the latter than in the former.

The diarrhoea is sometimes very profuse and obstinate, but I have found no remedy so efficient in restraining it as the extractum ergotæ liquidum and morphia, which was first suggested to me in one of the

cases by my friend, Dr. Banks.

Dr. McClintock.—Dr. Johnston's cases did not occur about the same time. We are not to regard them as representing, in any way, an epidemic, for they are spread over six or seven years, and I presume that they were not the only cases of puerperal fever that Dr. Johnston met with during that period, but that he has selected them on account of their similarity of character. Now, the point of most interest with regard to these cases is their nature. How are we to regard them? Was it a remittent fever accidentally occurring in the puerperal state, or a form of that complex, multiform disease, puerperal fever? A remittent character is common to nearly all fevers. We see it in surgical fever, suppurative fever, hectic fever, gastric fever, and various others. It is not to be wondered at, therefore, that puerperal fevers should occasionally assume this character, or in more or less marked character. One of the results of Dr. Johnston's minute and careful observations is to show the

^{* &}quot;On the Cure of Puerperal Fever," 3rd edit., 1785, p. 223.

remarkable periodicity of these pyrexial accessions. I, myself, and most others who have been in the habit of observing puerperal fevers have remarked, from time to time, cases in which there was very little local lesion, but a great deal of fever, and that these cases are sometimes very fatal. Over thirty years ago, when I was an assistant in the lying-in hospital, we often met with cases of this kind, in which there was no local pain or inflammation, and no vomiting, but rigors and severe fever, with an accession of the fever in the morning or in the evening. These cases were then regarded as cases of pyæmia; and when the patient died there was generally no sign of peritonitis, but the uterus would be somewhat enlarged; and, on cutting into it, we observed purulent spots and pus issuing from some of the sinuses. These cases were first described by John Clarke, a great many years ago. Cases of this kind, I presume, we all have met with; and I think it is very well to distinguish this phase or variety of puerperal fever by the name of puerperal remittent. But, if I had been putting a title to Dr. Johnston's paper, I would have left out the word "septicæmic" altogether. That theory of the septicæmic origin of these cases is at present sub judice; and it is premature to come to any positive conclusion regarding it. If the fever be produced by the absorption of septic matter, through some abrasion of the vagina, the marvel is how any woman in her first confinement can escape septicæmia; for, in all such cases, there is invariably more or less laceration of the perinæum or orifice of the vagina. That this fever arises from vitiation of the fluids I am quite prepared to admit; I believe that to be the sound and correct theory, well supported. There is nothing very new in that. Dr. Johnston quoted various older authors, including White, Butler, and others, who have distinctly laid down that it is the poison introduced into the blood that gives rise to the fever. The first person who formulated this doctrine and examined it thoroughly and scientifically, was the late Dr. Ferguson, in his masterly and classic essay on puerperal fever. After a full investigation of the subject, with such data as were available at the time, he deduced three conclusions—namely, I, that the phenomena of puerperal fever originate in vitiation of the fluids; 2, that the causes capable of vitiating the fluids are particularly rife after child-birth; and 3, that the various forms of puerperal fever depend upon this one cause, and were deducible from it.

In the course of our practice we meet with cases occasionally which very much upset and confound our theories. Four years ago I attended a lady in her first confinement. Dr. Denham was with me, and we delivered her with the forceps. She had abundance of milk and went on very well until the sixth or eighth day, when she began to suffer from a quotidian remittent fever, which went on for several days. I could not find any cause for this *quoad* in her puerperal state. I had discerned a disagreeable smell in a corner of the room, which I ascertained was attributable to some leakage of gas.

The lady went on for days in the same way, and I became a good deal alarmed about her state. I had her removed into another room, and thereupon the febrile affections were at once reduced in frequency, recurring only every third or fourth day, and she became very much improved. This went on for two or three returns; and then, at the end of a fortnight, I determined to take the bold step of sending her out of town. Accordingly, I had her carefully taken down in her carriage to Kingstown, using every precaution against cold. She had not been three weeks confined at the time this took place. The day after she went there she had one of her usual attacks of fever, between twelve and two o'clock—but it was not so severe as any of the preceding attacks, and she never had another. She recovered perfectly, and has had two or three children since. Now, I ask, was this a remittent fever of septicæmic origin? If so, why did it so

instantly cease under change of air?

Dr. ATTHILL.—Dr. M'Clintock has raised the question of the causation of puerperal fever. Into that debated question I do not enter further than to say that I think it would be a great pity if we were to omit the term septicæmia. Of this I am perfectly satisfied: that there are but three origins of septic fever. One is by the direct introduction into the system of the patient of the septic matter, either by the hands of the attendant or by the inhalation of noxious vapours. That which is commonly called self-generating septicæmia is where the woman is supposed—as they occasionally do—to inoculate herself by discharges from the uterus passing over lesions of the genital organs. Then, there is that form of septicæmia which is generated by the patients themselves in the manner alluded to by Dr. Ferguson, whom Dr. M'Clintock quoted. Dr. Johnston in his paper has alluded to the fact of the system of the mother being loaded with the products of the retrograde metamorphosis which goes on after parturition. I believe, myself, that the fluids themselves become thoroughly disorganised, and that the patient inoculates herself through the fluids. I am aware that I am expressing myself very vaguely; but if we assume that infection passed from the hand of the attendant, or by inoculation through the genital organs, conditions similar to the conditions which are produced by that inoculation may spring up in a puerperal woman after delivery. I am strongly of opinion that every form of pyrexia occurring after delivery partakes more or less of an intermittent character. I have a few bed cards, taken at random from the file of the Rotunda Hospital, from which one or two remarkable facts appear. One relates to a patient who was delivered last January after natural labour. She was attacked with milk fever—that is, she simply had considerable pyrexia, quick pulse, rise of temperature, and copious secretion of milk; and I find that there was a difference of three degrees of temperature each morning and evening. On the 27th of January her temperature in the evening was 104° 4, and the next morning it was only 100°. The evening afterwards it again rose to 103°. Yet that woman was discharged well in eight or nine days.

She never had the slightest abdominal complication, and no physician would have had the slightest anxiety about her, were it not for the marked risings and fallings of temperature. But for these it would have been said to be a case of milk fever. Another card relates to a woman who sustained considerable laceration of the perinæum, but who was discharged well in eight or ten days. In her case the temperature rose and fell from 101° to 104°, although she had not what is ordinarily called septicæmic fever. Another card is that of a fatal case in which the temperature only varied one degree between morning and evening. According to my experience, a characteristic of all puerperal fevers is that they involve extreme variations of temperature—in fact, I believe that every puerperal woman is more or

less in what may be termed a septic condition.

The President.—As this is the last meeting of the Session, I must ask your indulgence while I say a few words on the subject with which I dealt at the opening meeting, and which the discussion on Dr. Johnston's valuable paper upon "Puerperal Remittent or Septicæmic Fever' makes me additionally anxious should receive the attention that its importance deserves. I have maintained that where disease or injury is inflicted on the living body, its organic life is assailed, and its vital susceptibility recognises, resents, and resists the assailant. According to my belief, disease is not the consequence of organic changes, but these changes themselves result from a primary injurious impression made upon the life which, in each individual, is an indivisible unit, the whole of which is present in every part of the organism. From the primary injurious impression thus made upon the life-unit result, secondarily, the various changes in the organic solids and fluids of the body which take place in diseases. According to this view it is as erroneous to attribute one disease, say, to shocks received by the nervous system, as to attribute another to blood-poisoning, the effects upon the nervous system and upon the blood being in each case secondary, the shock being primarily sustained by the life-unit, and resulting in the changes whether in the nerves or blood—the nerves and blood must both be alive—dead nerves do not receive impressions any more than dead blood circulates. Life is the great antiseptic which prevents or resists death; when it can resist no longer it departs. The integral changes which take place in the blood in disease are not of the nature of fermentation or putrefaction. Such changes are, as I contend, vital. They never take place except in the living tissues, while fermentation and putrefaction can only arise in the dead. Every disease to which flesh is heir results from noxious or morbific influences, either communicated from without or generated within the organism; and it may be quite proper to consider those influences as poisons; but, if so, they ought, as I believe, to be considered as life poisons, and their action upon the constituents of the organism as altogether secondary.

Dr. Macan.—My first observation is as to its name—viz., "puer-peral remittent fever, or septicæmia." Is all remittent fever septi-

cæmic, or is septicæmic fever always remittent? Is all remittent fever in the puerperal state dependent on septicæmic poisoning? It should be remembered that different things produce fever in the puerperal state. Septicæmia is undoubtedly one of them; but we have other factors as well, some of which, up to the present, are entirely unknown. What is ordinarily called surgical fever is now well recognised as one of the causes of well-marked remittent fever in the puerperal state. The next thing to which I would direct attention is what is called cellulitis. Let our theories of it be what they may, it is dependent on the trauma of labour. Of all puerperal conditions none are so typically remittent and difficult to deal with as cellulitis. It may go on for a fortnight or three weeks, and the temperature of the woman may go up three degrees every morning, and fall the same amount at night, and all that time her tongue may be clean, and she may have a good appetite, and be otherwise in perfect health. this explanation, to a certain degree, answers Dr. Johnston's paper is evident. The first case he gives is one of cellulitis with pelvic abscess. In three other cases there was tenderness of abdomen, and the other cases are cases in which Dr. Johnston thinks auto-infection is the explanation. With regard to septicæmia, what is the evidence in the large majority of cases that there is septicæmia? There are no secondary abscesses. The want of local symptoms is the only reason why they are put down as septicæmia. The trauma of labour is the first thing that we recognise as causing puerperal fever. The great distinction between traumatic and septicæmic effects is that the latter come on much more rapidly than the former. A woman who is infected during labour with septic poison shows immediate symptoms of being infected, and is never more than two days without manifesting them. On the other hand, automatic infection assumes the possibility of the decomposing discharge of a fresh wound producing that infection. It is only after two or three days that the discharges become decomposed and the wounds in the vagina are then granulating, and will not absorb septic matter. There is no way in which such infection can take place after the slits in the vagina have begun to granulate. The conditions necessary for auto-infection are —first, a fresh wound; and, secondly, decomposing vaginal discharge. In some of the cases mentioned in the paper, there were decomposing discharges, but the removal of them did not take down the temperature, and Dr. Johnston did not look on those cases as serious. woman, with a temperature of 102°, was walking about for two hours in the day. Dr. Goodell, of Philadelphia, recommends that cases of auto infection should be made to get up, because, while they are in a lying posture, the discharges from the uterus are detained and absorbed; but if the patients maintain an upright position, the discharges flow down by the effect of gravity, and are thus got rid of. I would say, then, that the three causes of puerperal fever are-first, the trauma of labour; secondly, that unknown affection occurring in some instances, and called milk fever; and, thirdly, septicæmia.

Fever arising from the trauma of labour does not occur until the third or fourth day; whereas the fever from septicæmia arises within twenty-four hours. With respect to remittence, each fresh cause of disease, or decomposing thrombus thrown into the system, causes a fresh rise of temperature. Each new cause of cellulitis causes a bursting out of fever. In all the books cellulitis is given as one of the causes of the highest temperatures. Schroeder mentions an instance of a woman so affected, whose temperature rose to 108°, and who yet recovered; and in a great many cases the temperature is over 106°. Therefore, I think high temperature is not much evidence of septicæmic infection.

Dr. More Madden.—The question before the Society is one of great practical as well as theoretical importance. The question is, if there be such a disease as puerperal remittent fever. We have all seen puerperal fever assuming a remittent type. Whether this arises from vitiation of the blood, or from auto-infection, I do not know. What is meant by auto-infection I do not exactly understand. If a woman be capable of poisoning herself, she must also be capable of poisoning her child. We generally find that women suffering from puerperal fever are capable of secreting milk for some days; and I have never seen a child poisoned by this fearful septicæmic poison through the blood. However, that is one of the mysteries which have be explained by the author of the paper. At certain times you find that all puerperal women are liable to fever, while at other times they are not. But that women carry in themselves a subtle poison which they generate when lying-in, I cannot believe for a moment.

Dr. HENRY KENNEDY.—The cases so well given by Dr. Johnston were all, I believe, of the nature of puerperal fever; nor does the character of intermittence in the symptoms alter this view. All types of fevers present this state in turn, and much more markedly at some periods than others. As to puerperal fever being often produced by causes from within, I have no doubt of it, and quite agree with Dr. Atthill on this point; and as bearing on it, I may mention that when Dr. Johnston was Master of the Rotunda Hospital, I saw cases where the woman was sick on admission, and before she was confined. These cases were scarcely delivered before bad symptoms showed themselves, and all, I believe, ran a rapid and fatal course. But this view of the subject does not take away from the additional risk which is run when there happens to be a rupture of the perinæum or other Pus must then form, more or less, and the chances of absorption be increased; and should the pus be of an unhealthy kind, the danger is by so much the greater. We know, as a fact, that a small quantity of unhealthy pus, introduced into the circulation of a healthy animal, gives rise to all the phenomena of fever. If the dose be large, the animal will die; but if not sufficient to kill it, it will slowly recover; and it is well worth noting that it is by an attack of diarrhœa this occurs. Dr. Madden spoke as if there was no risk to the child in cases of puerperal fever, whether fatal or not. I

cannot accept this, for in my own experience an unusual number have

died, generally from erysipelas.

Dr. GRIMSHAW.—I wish first to refer to the cases which Dr. Kennedy refers to as having been admitted to the Rotunda Hospital with fever. At that time we all know that enteric fever was very prevalent. I was called on to attend three or four cases of women after confinement, all of whom, I believe, were suffering from enteric fever. In two of them it certainly was so. In one case I was able to trace the disease as having been contracted in a court in King Street, where she was living, having come to town with the intention of going to the Coombe Hospital to be confined. She showed no serious symptoms of fever until after her confinement, when symptoms of puerperal fever were set up, with morning and evening variations of temperature. She died, and a post mortem examination disclosed the characteristic lesions of enteric fever. That case conveys the very important lesson that there may be a considerable number of cases apparently of puerperal fever, but which are not really of that nature. Now, I do not mean to say that all of them, or the greater proportion of them, are so; but it certainly is a remarkable fact that amongst the cases which I was called upon to see at the Coombe, some were scarlatina, some were this very enteric fever, and some turned out to be nothing at all. Four of them were sufficiently well marked cases of enteric fever to be recognisable, and in one the post mortem examination, as I have said, confirmed that diagnosis. In that particular case the appearances after death bore a remarkable relation and resemblance to cases of enteric which are very rapidly fatal before any distinct ulceration of the bowels has time to take place. It so happened that I met with this case in the Coombe Hospital at a time when Dr. J. W. Moore and I had met with cases of very rapid enteric fever occurring-one in the Meath and the other in the Cork Street Hospital. Great flakes of lymph were found in the peritoneum, and various other symptoms which have been found in connexion with diseases of this type; and the two cases which Dr. J. W. Moore and I had, presented symptoms exactly the same as in the cases which came from the Coombe Hospital. With regard to septic infection or septicæmia, I cannot see that there is any difficulty in imagining that a woman may derive septic infection either from the outside, or may generate it within her own uterus. A very large number of experiments have been tried on animals with regard to septic infection, and its nature-although not fully settled yet—is to a great extent known. If you take putrid blood and inject a portion of it into the circulation of an animal, certain symptoms are set up which are known as those of septic infection. These symptoms are followed by fever of a remittent type, such as that which I understand Dr. Johnston to have described, and which is now known to be characteristic of, and always accompanying, septic infection. These cases might be compared with the cases of women becoming infected, owing to carelessness or dirt, in a lying-in institution. There are also cases in which persons have suffered wounds or injuries, and after some days septic infection has been set up, owing to the decomposition of materials which have lain in the wound. In other cases the infection has come from outside the wound.

Dr. Sinclair.—Two or three expressions fell from Dr. Kidd as to vaccination, upon which I wish to make a few observations. That vaccine fluid is filled with germ growths, I take to be pure hypothesis. I cannot see how Bryce's test proves that we have these growths in the vaccine lymph. That, I think, is also hypothetical. Another statement of Dr. Kidd was that the more distant the date of the first vaccination, the more perfect would be the second. I deny that altogether. In my vast experience of vaccination I have found that persons who have been well vaccinated in infancy have shown no trace of the vesicle at all. In such cases, instead of a vesicle only, a little pimple is thrown out, which dies away, in most cases, in two or three days. In proportion to the imperfection of the first vaccination does it come nearer to the true vesicle. In the cases marked in the registry "Cicatrix—doubtful," we find them coming nearer to the natural vesicle in infancy. In some cases we have no trace of the original vaccination, and yet the effect of the revaccination comes near the primary effect; in others a vesicle comes on very rapidly after revaccination, but decays very rapidly, and often ends in diffuse inflammation without a vesicle at all. In all cases where there has been a perfect vaccination at first we find the second vesicle abortive. I do not see in the least how Bryce's test proves the existence of those animals or vegetables, or whatever they are called. Bryce's test is this:—Supposing we have a case that has been vaccinated, and in which the vesicle is doubtful, we either take lymph from that doubtful vesicle and insert it in another arm, or we take proper lymph from the arm of another infant and insert it in the doubtful arm. If the original vaccination was very good, the last vaccination will overtake the other, and from the time it has done so both go on pari passu to a crust.

Surgeon-Major Johnston (in reply).—So many points have been discussed that I cannot notice more than one or two of them. I distinguished the cases that I brought forward, so as to try and limit the discussion as much as possible. I named one class—cases of "auto-infection" in which, as has been well shown by Sanderson in his recent lectures, the disease arises from a change in the fluids, to which all parturient women are subject. When I first paid attention to this subject I had in my mind the name "puerperal remittent" fever, which it has been suggested I should have kept. I first had that title for my paper; but the more I looked into the cases, the more I became impressed with the conviction that they were all septicæmic. I am quite sure that the cases Dr. Atthill mentions as having occurred in the Rotunda Hospital were not cases of milk fever, but cases of septicæmia. This subject has been more studied

in Germany and France than it has been here. I hold in my hand a book by d'Espegne, published in 1873, which is very fully illustrated. German authors have also paid great attention to the subject, and many of them at least ignore the idea of milk fever occurring in the puerperal state. They look on that doctrine as a heritage from ancient popular delusions. The cases of Dr. M'Clintock are, I think, the same as the cases in my paper. With respect to Dr. Macan's suggestion that the patients should be made to get up out of bed, that practice was very much enforced towards the middle of the last century, it being thought that the discharges passing over the injured surfaces of the vagina did mischief—and I believe there is a great deal of truth in that. With respect to one of the cases that I brought forward, no one would have noticed anything wrong about the woman. It was the case which Dr. M'Clintock mentioned as sitting up. Cases of that sort are the very ones that, if not looked after, will sicken the whole hospital, although probably some of them in themselves are not worthy of treatment or observation. But it will have been the observation of many who have had hospitals under their charge that a gradual sickening process goes on, which is, no doubt, due to the septicæmia that passes through the patients. Dr. Macan thinks there is no proof of their being cases of septicæmia. I think the proofs are day by day detailed in every case that I have given. We have the rigors, the fever, the pyrexia, the remittent phenomenon, which is an invariable mark of septicæmic poisoning—sometimes the local pain, sometimes the evidence of cellulitis, and sometimes the perimetritis and the diarrheea. The cellulitis is, in my mind, an evidence of septicæmia—the result of septicæmic absorption. I have pointed out in my paper that the rigors of septicæmia are to be looked for about the third, fourth, or fifth day. Dr. M'Clintock thinks that any injuries would have granulated by that time. That, I think, is very doubtful. All the cases that I have brought forward recovered, and consequently the treatment that I adopted with them may be considered as somewhat valuable. In the Journal of to-day you will notice that another case is published of recovery from the use of Warburg's tincture. From the views expressed by Dr. Grimshaw, if he had not assured me that he had not read my paper, I should have thought that he was quoting from it. Perhaps we derived some of our information from similar sources. As to the uterine douche mentioned by Dr. Kidd, it was very freely used during the middle of the last century, and was strongly recommended for vaginal and uterine decomposing clots. I am one of those who are now gradually believing that puerperal fever may possibly never recur in an aggravated form in any of our institutions. At the same time, I am perfectly well aware that there are different types of puerperal fever which may be met with in practice, arising from sources independent of those to which I have alluded.

Obstetric Summary.

L'Union Médicale for December 24, 1878, in a report of the Societé de Médecine de Paris, gives the following:—

A Case of Cutaneous Desquamation in a Living Fætus.

By M. CHANIER.

The age of the mother is not stated, but the confinement was her second, and the labour lasted from one to half-past five, being mostly completed in one long pain, during which the head passed from within the os uteri to beyond the vulval orifice. The child was born with the cord round its neck, and half-asphyxiated. particularly attracted attention was the green and red colour of the umbilical cord. It was flattened, and appeared to belong to a stillborn feetus which had been long macerating in the amniotic fluid. But more than this, the epidermis of the entire body came off on the least friction, just as in a macerated fœtus which has been dead some six or eight days. The epidermis of the foot came off like a glove. The day after birth all the epidermis had come away, except in two or three places upon the left thigh, the back, and right arm. child had by that time a normal colour, proper temperature, and then was and since has remained a perfectly healthy infant. M. Chanier continues: Can the fœtus suffer maceration before death in the amniotic fluid? If not, to what can the desquamation be due? No eruptive fever had been observed in the neighbourhood during the period of gestation in this case. The mother had suffered from bronchitis; there was no evidence of syphilis.

The membranes were very friable, of the colour of the cord.

The amniotic fluid was healthy, and the placenta also.

Gynacie Summary.

Hernia of the Ovaries.

In an article on hernia of the ovaries Dr. Albert Puech collects a large number of recorded cases, and estimates the relative frequency of the several varieties. Far the most frequent form he finds to be the inguinal variety, of which he finds eighty-six observations. It is five times as common as the crural form, and at least four times as common as all other varieties put together. In new-born children it is the only kind of ovarian hernia met with. This relative frequency, so different from the case of intestinal hernia, is to be connected with the fact that the condition of ovarian hernia is in the majority of cases not an accident or malady, but a fault of development, according to which the ovaries tend to follow the course taken by the

testicle in the other sex. Thus of the eighty-six cases only sixteen appeared to have been truly accidental, a similar number might be set down as doubtful, and in fifty-four there appeared to be no doubt that the hernia was congenital. The author considers that the ovary in these cases has been drawn down by the fibres of the round ligament, as the testicle is by the gubernaculum testis, but he thinks the process is not so much a true muscular contraction as a shortening of the fibres, analagous to the contraction of newly formed cellular tissue. In no less than thirty-three of the eighty-six cases the anomaly was associated with some other malformation of the genital organs. Four times there was a uterus unicornis or bicornis, sixteen times absence or rudimentary development of the uterus, and thirteen times feminine hermaphroditism. There were twentyeight examples of double inguinal hernia, in eight only of which the genital organs were in other respects normally formed. In congenital hernia the ovary is found to be invariably accompanied by the Fallopian tube, while in accidental hernia it is more frequently isolated. In six cases the hernial sac was found to contain also the uterus or

one of its horns, in three intestine, and in two omentum.

A typical example of the condition of double inguinal hernia of the ovaries associated with rudimentary development of the ducts of Müller is found in a case recently recorded by Werth (Arch. f. Gyn. xii. p. 132). The patient, twenty-two years old, was admitted into the hospital at Kiel in October, 1876. She had an angular curvature of the cervical vertebræ resulting from a blow received at the age of twelve. At the age of fourteen she was affected by pains in the legs, which led to a weakness and diminution of sensibility in the right leg. The menses had never appeared, but every four weeks she had pains in the abdomen accompanied by exacerbations of the pains in the legs. An atresia of the vagina had been discovered about nine months before. The osseous system was found to be fully developed, the voice feminine, but somewhat harsh, the breasts small and flat; the pelvis had preserved its infantile character. The external genital organs were normally formed, but the vagina was only represented by a depression five mm. in depth. No trace of vagina could be discovered between sound in bladder and finger in rectum. On conjoint examination under chloroform with the finger in the rectum a body could be reached on each side which was recognised as the kidney, but no trace of uterus or its annexes could be discovered, except two small bodies at each side of the pelvis, whose nature could not be precisely determined. At the time of the onset of periodical pains, referable to menstrual molimen, attention was attracted to a body as large as a pigeon's egg in the situation of the inguinal canal at each side. These bodies resembled testicles in consistence and in sensibility, and pressure upon them produced pain radiating to the kidneys and epigastrium. After the cessation of the periodical pains, the tumours appeared to be smaller, and their surface smoother. They had been first noticed

by the patient at the age of fourteen, the period when pains in this

region had first appeared.

The tumours were successfully removed under carbolic spray by Esmarch, on February 2, 1877, and proved, as was expected, to be the ovaries. The hernial sacs contained also the pavilions of the Fallopian tube, and a pedicle, which appeared to be the extremity of the horn of a rudimentary uterus bicornis. These pedicles were tied with carbolised gut. The ovaries had an irregular surface covered with scars; they contained many Graafian follicles, but less than are usual at such an age. The left ovary contained a recent corpus luteum, six mm. in diameter: the largest follicle was eleven mm. in diameter, and contained an ovum. For a few days after the operation the patient had violent pains resembling those previously felt, but there was no febrile disturbance, and the leg had become stronger when she left the hospital, seven weeks after the operation.

Accidental or acquired hernia of the ovary is always unilateral, and more frequent on the right than left side. It is invariably due to muscular strain, and it most readily arises after delivery, when an intestinal or omental hernia has existed previously. Crural hernia of the ovary the author finds recorded fourteen times, and it was acquired in all of these instances, except one case of a new-born child, recorded by Cloquet, in which a hernial sac, on the right side, contained the uterus, with the ovaries and Fallopian tubes. The ovary in its abnormal' situation is exposed to frequent lesions. Inflammation was noted in twenty-eight instances, cystic degeneration in seven, cancer in two, and tubercle in one. In one instance a cystic tumour of the displaced ovary, of eighteen months' growth, was successfully

removed by Lücke.

Dr. Puech relates at length a singular case which he interprets as gestation, in the sac of an ovarian hernia. It occurred in 1706, and was recorded in 1716 by M. Gouey, of Rouen, who supposed that a fecundated ovum had lodged in a pouch at the insertion of the round ligament, and during its growth passed down in the direction of the inguinal canal. A young lady of good position, aged 20, was brought to M. Gouey, in August, 1706, by her lover, on account of a tumour in her right groin, as large as a hen's egg, which had appeared about a month. M. Gouey, who had previously treated the lover for a venereal affection, at first considered the swelling to be a bubo. It continued, however, to grow for two and a half months, became unequal in outline, and strong arterial pulsations were felt in it. The patient being extremely anxious for a cure, the tumour was incised, and found to contain a feetus, situated with its membranes within a sac of peritoneum. The fœtus, a living male, was of about three months' development, which corresponded with the period of cessation of menses The placenta was attached to the ring of the external oblique muscle, and to neighbouring parts. It was separated without difficulty by gentle traction upon the funis. Dr. Puech contends that for gestation to occur outside the abdominal cavity, as in this case, both ovary and Fallopian tube must have been in a hernial sac, the first to provide the ovum, the second to conduct the spermatozoa.—Annales de Gynécologie, November, 1878.

Antiseptic Ovariotomy in Berlin.

Professor Schroeder, of Berlin, whose report of the result of fifty antiseptic ovariotomies performed between May 25th, 1876, and February 24th, 1878, was recorded in the OBSTETRICAL JOURNAL for July, 1878, has published a further Table, also of fifty cases. the first series, excluding three cases in which death occurred from spread of cancer, the mortality was only 14.9 per cent., while in thirtythree operations performed in the Lying-in Hospital, it was only 3.3 per cent. The second series of fifty cases extends over the period from February to December, 1878. Seven patients, or 14 per cent., died; and forty-three, or 86 per cent., recovered. All the deaths occurred in very difficult and complicated cases. In one the immediate cause of death (in the second week) was adhesion of the pedicle to the wall of the pelvis, so as to strangulate the rectum; another patient died from shock; a third had myxomatous degeneration of the whole peritoneum. The remaining four died, one from fatty degeneration of the heart, the three others from septicæmia. Professor Schroeder remarks, with regard to the latter, that it appears impossible, even with the strictest antiseptic precautions, to be absolutely certain of excluding septic germs from the abdominal He also thinks that while a few such germs might be nearly innocuous to a healthy organism, they acquire greater virulence in a depressed and diseased subject, with numerous wounds to afford them a congenial proliferating surface. He also points out that, after loss of blood, the "suction-power" of the circulatory apparatus will be more vigorous, and hence the penetration of the germs to distant parts of the system more easy. Two of the cases were complicated with pregnancy, and both ended favourably as far as the mothers were concerned. Professor Schroeder has as yet operated five times in pregnant women, the diagnosis in each case having been previously made. All five recovered. Three were normally delivered at term; one aborted after the operation; and the fifth gave premature birth to a living child, which, however, afterwards died of general weak-The operation is best performed in the first half of the period of pregnancy. Later on the broad ligaments receive such an abundant blood-supply, and the pedicle of the tumour becomes so much shortened, that the operative difficulties and dangers are decidedly increased. With reference to a case in which the tumour removed was very small-not larger than a duck's egg-Professor Schroeder remarks that such small tumours are more difficult to operate on than those of medium size. Both here and in Battey's operation for the removal of normal ovaries, he makes the incision in the linea alba long enough to introduce the whole hand into the peritoneal cavity, and so bring the ovary or growth outwards, ligature, and remove it. Tumours of unusual size, on the other hand, are troublesome, because their removal leaves "too little to fill the abdominal cavity, and too much wall to cover it." If the intestines and mesentery are not of sufficient size, it is difficult to expel the air, which always enters the abdomen when its wall is incised, after the operation. This air may or may not be free from septic "germs." If free, its presence is of no importance, as it is sure to be absorbed; but of course it is impossible, as above remarked, to insure this. Professor Schroeder, therefore, is accustomed, "if the intestine does not sink of itself into the pelvic cavity, to pack the latter with the sigmoid flexure of the large intestine, and to spread the mesentery over all. It is thus easy to expel the air before the last sutures are secured." If, however, the mesentery is, as happens in cases of some very large tumours, too short to allow the small intestine to descend, there is nothing for it but to press the flaccid abdominal walls deep into the pelvis, and thus expel the air. This, of course, renders the accurate closure of the wound by sutures much more difficult. In two cases Professor Schroeder has even removed a piece of the abdominal parietes, but only one of them benefited materially by the excision. This was a case where the portion removed included the sac of an umbilical hernia the size of a man's fist.—Berliner Klin. Wochenschrift (No. 1, 1879), and Medical Times and Gazette.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"Laceration of the Cervix Uteri." By William Goodell, A.M., M.D. Philadelphia: 1878.

"Further Remarks on Complete Intra-peritoneal Ligature of the

Pedicle in Ovariotomy." By Alban Doran.

"The Application of Pressure in Diseases of the Uterus." By

V. H. Taliaferro, M.D., Atlanta.

Communications received from Dr. West, Dr. Matthews Duncan, Dr. Playfair, Dr. Godson, and Dr. Griffith.

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Original Communications.

ON THE PRESENT STATE OF KNOWLEDGE AS TO THE INHERITANCE OF SYPHILIS.*

By Professor A. Weil, of Heidelberg.

In undertaking, within the limits of a clinical study, to give a sketch of a subject, which both on account of its scientific interest and its clinical importance, has justly for centuries been reckoned among the most debated problems of medicine, while up to the present day even its most essential points have not yet been fully established, I must warn my readers not to expect an exhaustive compendium of the present state of knowledge as to hereditary syphilis with full historical and literary references. It is rather my object to give an outline of the present state of the question, to separate what is established from what is still a subject for investigation, and above all to seek to discover the reasons which render it possible that, notwithstanding thousands of observations of inherited syphilis, yet diametrically opposite views as to the mode of its inheritance have found supporters. A discussion as to the genesis of hereditary syphilis seems to me to be desirable specially with reference to the most recent investigations in this field. The excellent monograph of

^{*} From the "Sammlung Klinischer Vorträge."
No. LXXII.—Vol. VI. 3

Kassowitz is a most important work. The completeness with which the author has collected the authorities on the subject, the keenness of his criticism of the theories and experiences of others, and, above all, the enormous number of careful original observations which he has been able to bring forward as a basis for this theory as to the inheritance of syphilis, give the work of Kassowitz a high and permanent value, quite independent of the correctness of his theory. And does not this theory itself, in its simplicity and strict legitimacy, bear the stamp of truth upon it? Does it not close the old strife as to the origin of hereditary syphilis from the male parent? Yet the plausibility of this theory must not deter us from a scientific investigation whether its truth can be as categorically inferred from the facts as Kassowitz contends.

The fact that children bring syphilis into the world with them as an inheritance had not escaped the observant physicians of the sixteenth century: nay, a two-fold sort of inheritance had already been inferred by some, the first by procreation, the second by contamination of the fluids of the mother. Up to the appearance of Hunter's work the opinion was held that father and mother can equally impart inherited syphilis. Hunter, who denied the contagious character of secondary syphilis, was in consequence of this error compelled also to disallow the transmission of the disease from those who suffered from its secondary manifestations to their offspring, an opinion which, supported by Hunter's authority, was for a long time accepted by the most various authorities on syphilis or the diseases of children. Since, however, many children continued as before to show symptoms of syphilis, either at birth or within the first few weeks of life, all such cases were explained by the assumption that the infection of the child took place during the passage of the child through the genitals of the mother. (Infectio per partum.) With the extension of our knowledge of the nature of syphilis, and of the incubation of the syphilitic poison, with the advances of the pathological anatomy of hereditary syphilis, the ground was more and more taken away from under those who denied inherited syphilis, and

its existence is now one of the facts acknowledged on all sides. As soon, however, as we cease to content ourselves with this naked fact, but seek to penetrate deeper into the nature of the inheritance, we meet with the most contradictory opinions. Even with regard to the most obvious question-namely, whether father and mother stand on a completely equal footing with regard to their power of transmitting the disease to their offspring, we find the most widely divergent views. If there are some on the one side who go so far as to claim for the father alone the fatal right of transmission, we do not fail to find others on the other side who make the mother alone responsible for conveying syphilis to the unborn child. Of those who admit the possibility of both forms of inheritance—and these form an overwhelming majority—some regard inheritance from the father, others that from the mother, as the most frequent occcurrence, while other observers are of the opinion that the syphilis of the child bears in itself no marks which betray its origin from father or from mother. Bärensprung holds that affection of the liver allows the preponderance of the father's influence to be diagnosed with tolerable certainty, and affections of the lungs the preponderance of that of the mother. A further and still undecided strife has been kindled upon the point whether, in cases in which the infection originates in the father, it is possible for the mother to remain unaffected, or whether, in such case, an infection of the mother must occur in every instance, or at least in the great majority of cases, either in the ordinary manner at the time of conception by syphilitic women, or by contamination derived during pregnancy from the syphilitic fœtus. Also the question as to what is the fate of a child which is healthy from its procreation, if the mother acquires syphilis for the first time during pregnancy, is answered by very few observers with the opinion that the possibility of inheritance is exhausted at the moment of procreation. In this case it would seem natural to suppose that syphilis of the mother acquired for the first time during pregnancy cannot engender hereditary syphilis in the child; and that it can at most only endanger its existence in disposing the mother to abortion or miscarriage. In opposition to this view, however, it is considered by almost all authors as obvious that women who have become syphilitic for the first time after conception can communicate the disease during pregnancy to a fœtus healthy from its procreation. We are here struck by the fact that some allow the possibility of this transmission through the whole course of pregnancy, others hold that the child enjoys immunity. if the mother is affected by syphilis only during the last months of pregnancy, while others would limit the transmission to those very last months, or again to the middle months. If we consider that with regard to other questions—the duration of the power of transmission in the parents, the influence of the age and the intensity of the syphilis in the parents who transmit it, the frequency of the disease in the offspring, the period of the outbreak of manifest symptoms in the child, and the like—there exists quite as much difference of opinion, it will be admitted that to find the right path in such a labyrinth is not a very easy matter.

What is the cause of such perplexity? How can the sources of error be avoided which have given rise to such directly contradictory opinions? The blame of the latter must be laid upon those who have preferred theoretical speculation to laborious and correct observation, or who, although they were compelled to study the inheritance of syphilis on the side of clinical observation, and to bring facts to support their opinions, yet missed the true path, because they failed to interrogate nature in the right way, or because, not regarding the special difficulty of the subject, they contented themselves with few facts or a one-sided observation of facts, or lastly, because they assumed as an established fact what, in the eyes of an unprejudiced critic, might have been capable of a different interpretation. I scarcely know any province in the whole of pathology in which it is so difficult for the single investigator to follow up a large number of cases in such a way that the conclusions drawn from them shall be conclusive, or capable of being applied in an incontestable manner to the solution of general questions.

It will perhaps contribute to a correct appreciation of our

past and future experiences in this department if we can make it clear to ourselves, once for all, what factors must be given in each individual case, in order that it may be capable of throwing any light upon the manner of inheritance. In the first place, we must be very strict in the diagnosis of hereditary syphilis, accept nothing as syphilis which is not really such, and not allow any case of early acquired to pass as hereditary syphilis. This first and obvious condition has. however, been frequently neglected, for children of syphilitic mothers, who have been born dead, or who have soon died after a natural or premature birth, without the appearance of any unmistakable manifestations of syphilis, have been accepted without further proof as syphilitic. Moreover, the distinction between hereditary and early acquired syphilis is not always easy; many of the manifestations of hereditary syphilis which are of minor intensity, and show themselves at a relatively late period, may completely simulate the appearance of the acquired disease. Supposing the diagnosis of hereditary syphilis to be established, the next point is to determine whether it must be attributed to the father, to the mother, or to both. There are obviously four modes of inheritance conceivable. The ovum of a healthy woman may be fecundated by the semen of a syphilitic man, or that of a syphilitic woman by the semen of a healthy or of a syphilitic man. These three modes may all be included in the definition of inheritance proper—in the narrower sense. Again, the communication of the poison may take place during pregnancy by means of the placental circulation; this should rather be called intra-uterine or placental infection. The proof that, in a given case, the transmission has been in one of these modes to the exclusion of the others, can only be established with certainty in those cases in which the condition of both parents at the time of procreation, and in addition, the state of the mother during pregnancy, has been exactly known. If the father was healthy at the time of procreation, the transmission must have been from the mother; if both parents were healthy, there can only be a question of intra-uterine infection; and finally, the influence of the father could only be proved if it were quite certain

that the mother had never shown any sign of syphilis either before or during her pregnancy.

It is readily conceivable how difficult it may be to answer all these questions, even in those most favourable cases imaginable, in which both the parents at the presumed time of conception were accessible to direct observation and investigation. Even then, it will often remain undecided, in the absence of any visible manifestation of syphilis in one or other of the parents, whether at the time in question there was really an absolute freedom from the disease, or only a latency of its symptoms. Moreover, even in the most favourable cases we are often destitute of all objective criteria, and are reduced to the statements of the parents. But it is well known how little value must be attached to the history given under such circumstances. But too often there is a motive for intentional deception; and even when the parents endeavour to tell the whole truth, the physician often cannot do more than suspect, with more or less probability, from the fragmentary history, the previous existence of a syphilis, or the period of its origin. It is naturally still more difficult to form any judgment as to the condition of the parents at the time of procreation, if it is only after the birth of a child affected by hereditary syphilis that we see either both parents, or the mother alone. The latter, however, is actually the rule in the case of illegitimate children, who furnish a large contingent of hereditary syphilis. We can scarcely ascertain who the father of the child is, much less obtain any trustworthy evidence as to his present or former condition. We must then content ourselves with the investigation of the mother, and with the statements which she makes. But even if we succeed, after the birth of the child, in bringing both parents under our observation, objective investigation too often leaves us in uncertainty. If, indeed, we find in either parent a primary induration, or the signs of tertiary syphilis, we may assume with certainty, in the first case, that he or she was free from the disease at the time in question; in the second, that it was present. But what is to be done if we find gland-indurations, condylomata, eruptions, or affections of mucous membrane, which may occur

months or years after the primary infection? The history only can then fix the time of infection. But notwithstanding the best will on the part of the person examined. this is often impossible, especially in the case of women, because the primary stage of syphilis, and a part of the secondary, were overlooked. The primary affection was not of an obvious kind; instead of the classical induration, it produced only a simple papule or an erosion, or it had its seat at a spot not easily accessible. The roseola, the induration of the glands, escaped the notice of the unobservant patient, because they gave rise to no subjective symptoms; it was only when condylomata began to proliferate abundantly about the vulva and anus, and distressed even a torpid subject by their stinking secretions irritating the neighbouring skin, as well as by the pain produced in sitting and walking, and in the evacuations of the urine and motions, that she went to the physician and produced the syphilis which had already existed months or years as a disease just arisen. It will be seen then that the condition which demands the knowledge of the state of health of both parents at the time of procreation can frequently not be fulfilled. If, however, it is unknown what was the state of health with regard to syphilis of one parent at the time of procreation, no positive conclusion can be drawn as to the relation of the syphilis of the child to the other parent, whose state of health has been fully investigated.

All these conditions, though clearly demanded by logic, are so frequently violated, that many of the observations recorded in literature are quite useless for any inferences as to the inheritance of syphilis. Sometimes, for example, the mistake is committed that an author, knowing one of the parents only, makes sometimes the known, and sometimes the unknown, parent responsible for the syphilis. If, for example, the mother of a syphilitic child is, at the time of her delivery, free from symptoms of syphilis, the unknown father is frequently assumed to be the transgressor, although this can only be fully justified if the mother has never suffered from syphilis either before or during her pregnancy. It happens still more frequently that an author

attributes to the mother the syphilis of a child, as to whose father there is no exact information, because the former at the time of delivery shows syphilitic symptoms. If, then, the syphilis of the mother has really or ostensibly arisen for the first time during pregnancy, it is regarded as established that intra-uterine infection took place, the possibility being overlooked that there might have been a true inheritance on the father's side. Moreover, that the history as to the date of infection, and the appearance of the first symptoms of syphilis, has not always been sifted carefully enough, is only too manifest from the reports of many published cases.

I mentioned before that we must admit à priori the possibility of two principal modes of transmission of syphilis to the fœtus-namely, inheritance in the narrower sense, and intra-uterine infection. In inheritance, the ovum or the seminal cell will already contain in itself the germ of the syphilis of the new individual which results from the intercourse; in intra-uterine infection, the latter is healthy from its procreation, and is only later exposed to infection during fœtal life by means of the placental circulation. Whether hereditary syphilis is to be ascribed to inheritance in the true sense, or to intra-uterine infection, or to both processes, is the first point to be debated. The occurrence of intra-uterine infection is denied by very few authors, true inheritance is admitted by all observers. Nevertheless, the question whether there is such a thing as inheritance of syphilis in the narrower sense appears to me to be worthy of the strictest examination. That syphilis may be inherited from the mother—that is to say, that a syphilitic woman may transmit syphilis to the ovule—appears to me to have never been directly proved, and indeed to be incapable of direct proof, a point which I should wish to see more distinctly stated than it has been by authors hitherto. For if we see that syphilitic women, impregnated by healthy men, bear syphilitic children, it is yet an arbitrary assumption to conclude this to be true inheritance. The woman who was syphilitic at the time of conception may remain so during her pregnancy, and infect the ovum for the first time during its course. No one, therefore, can decide whether there is here an inheritance or an intra-uterine infection. If we wish to find a precise answer to the question whether there is such a thing as true inheritance, we must turn to the father. In the case of the father, the possibility of direct influence upon the normal or pathological condition of the fœtus is exhausted with the moment of procreation; a hereditary syphilis to be ascribed to the father can therefore only arise by inheritance in the narrower sense.

But the hereditary syphilis of the child can with certainty be attributed to the father only when the mother was neither syphilitic at the time of conception, nor during the pregnancy. It will be seen, then, that the discussion, both with regard to the possibility of the direct influence of the father, and with regard to the existence of true inheritance, culminates in a question which Kassowitz also rightly assumes as the most essential point in his clinical investigations—is it the case that mothers who are not syphilitic bear syphilitic children? If the answer is yes, then not only is the inheritance on the side of the father directly proved, but the inheritance from the mother, which can never be directly proved, is rendered more than probable; for the analogy of the diseases which can be transmitted by inheritance to offspring (phthisis, hæmophilia, gout, insanity), teaches us in the most unmistakable manner that in reference to the transmission of pathological tendencies, fathers and mothers are just as much on an equal footing as they are in reference to the transmission of physiological peculiarities. But if the answer to the question is no, then there is no inheritance of syphilis in the narrower sense, the influence of the father falls altogether to the ground, and the syphilis of the child is a legacy from the mother, transmitted to the fœtus during intra-uterine life. These are the inexorable conclusions which must be drawn from the answer. How authors can deny the healthiness of mothers of children affected by hereditary syphilis, and nevertheless speak of hereditary syphilis as an inheritance from the father, is to me inconceivable.

This most burning of all questions with regard to the etiology of hereditary syphilis is answered in the affirmative by almost all observers, exceptions being very few, while

they also regard the birth of a syphilitic child from a healthy mother as being a frequent occurrence. Besides Swediaur, Trousseau, Vidal, Parker, Drysdale, Hutchinson, Behrend, Köhner, Hebra, Gerhardt, Baümler, and many others, Kassowitz also maintains, in the most decisive manner, the accuracy of this assertion, and supports his opinion by a very ample collection of evidence based on his own observations and those of others. But in the manner in which Kassowitz estimates the statements of other authors as to the healthiness of the mothers of syphilitic children, we sometimes miss the keen criticism which in other parts of his book he expends upon reports of cases which do not fit in with his theory of inheritance. Thus, for example, in the cases of Mayr and Bednar, as well as in the majority of those from the Foundling Hospital at Vienna, it is simply mentioned that among so many mothers of children affected by hereditary syphilis such a percentage was found to be healthy on examination. But this examination was made, as a rule, only after delivery, in rare instances during the pregnancy; while as to the state of the mothers of foundling children at the time of conception, or as to their earlier antecedents, there is just as little evidence forthcoming as with regard to the health of the unknown fathers. But it is reasonable to suppose that a considerable proportion of those mothers who were found to be healthy on examination were affected by latent syphilis, or had acquired immunity by previous saturation with the poison. To this it must be added that the hereditary nature of the syphilis, from which the children of the mothers found by Bednar to be healthy were suffering, appears to be highly problematical, at any rate in some cases, though I do not wish to go so far as Von Bärensprung, who maintains that the syphilis of all the 99 children was acquired in the Foundling Hospital. However this may be, in accordance with the conditions which I have before enumerated as necessary to be applied to observations which are to be admitted as the basis of conclusive proof, we must reject such fragmentary reports as valueless. Of more importance, however, in addition to some indisputable cases of the authors already named, are those of Kassowitz him-

self. "Out of 119 cases, the mothers were certainly free from syphilis in 43." Kassowitz convinced himself of the sound health of these women by careful observations continued in most cases for years together at intervals of one or two months. Although the former state of health of these women was, for the most part, not directly investigated-for the mothers naturally only went to the Children's Hospital on account of their children's illness-yet it might be carrying scepticism too far if we assumed of all these 43 women who were carefully observed, some of them for years together, that they all, without exception, had been syphilitic before they came under observation, but that the syphilis was latent during the period of observation. Moreover, there is a certain number—a small one, it is true—of the cases observed by Kassowitz and others, in which the mother's health is expressly stated to have been perfectly sound at the time of procreation. Most of these were cases of old syphilis on the part of the husband, or one which was latent at the time of marriage, or at any rate had not shown itself by any manifest symptoms when the marriage was concluded. This is what we might expect, because, in the contrary case, when the syphilis of the husband is recent and has contagious manifestations, the wife scarcely ever escapes infection.

Moreover, the cases, which are not extremely rare, in which a woman has borne a syphilitic child by a syphilitic man, and shortly after healthy children by a healthy man, or as in the case recorded by E. F. Richter, has first borne a syphilitic child by a syphilitic man, then healthy children by a healthy man, and finally, after returning to her syphilitic husband, a syphilitic offspring again, scarcely allows any other interpretation but that the mother herself had remained free from syphilis. We are compelled to adopt the same conclusion when we see that, in a marriage in which several syphilitic children have already been borne, treatment of the husband alone has the effect that the next child remains free from syphilis. I have myself observed a case which, as it appears to me, positively demonstrates the inheritance on the side of the father. The best proof that the mother was free from

syphilis during the pregnancy is afforded by the fact of her receiving a fresh infection of the disease towards the end of that period. If the infection takes place so late that even an intra-uterine infection of the child from the mother appears to be impossible, and if the child born under these circumstances is nevertheless affected by hereditary syphilis, there can be nothing else than an inheritance on the side of the father. In the following case this rare combination occurred.

Christine H. was admitted on March 30, 1876, into the syphilitic ward of our hospital. She was in the last month of her pregnancy, and was affected by a recent specific induration of the right labium majus, with swelling of the glands in the groin. Although manifestations of general syphilis (general swelling of glands, roseola, &c.) were absent, the patient was immediately placed under mercurial treatment with a view to the approaching delivery. The child was born at full term on the 15th of April, and the treatment was continued with but slight intermission, up to the end of June. Under this treatment the induration disappeared, and no other symptoms of the disease appeared while she was in the hospital. The child, whose development proceeded in a perfectly normal manner for the first four weeks, was affected in the fifth week by coryza, a papular eruption on the buttocks and head, fissures at the corners of the mouth, &c.

In this case the hereditary syphilis of the child, as well as the freedom from syphilis of the mother at the time of conception, is established. If my readers should be inclined to doubt the syphilitic nature of the classical induration because no further symptoms appeared within the next three months I may remind them of the fact which I have constantly observed, that mercurial treatment instituted at the time of the initial induration not only leads to its resolution, but also—and therein, in my opinion, is no advantage for the patient—postpones the outbreak of the so-called secondary symptoms. For the further course of the case demonstrated the constitutional syphilis of the mother in the most positive manner. In April, 1877, she aborted with a seven months' fœtus, and at that time

showed well-developed mucous tubercles on her under lip. The syphilis of the first child, born in April, 1876, could not be inherited from the mother, whose disease was still in its primary stage at the time of delivery and had not yet led to general swelling of the glands, eruption, &c. For even if we allow the possibility of intra-uterine infection in general, yet the fœtus cannot be reached before the infection of the mother's blood is completed. To sum up, we may confidently answer in the affirmative the first question—namely, whether a healthy woman can bear a child affected by hereditary syphilis, and therewith accept as proved inheritance in the narrower sense.

Nevertheless, it must be admitted that a considerable number of investigators adopt the opposite view, according to which there is no hereditary syphilis without a syphilitic mother. As soon as this ground is taken up, all demonstration is cut away, as already mentioned, that there is such a thing as inheritance in the narrower sense at all, or inheritance specially on the side of the father. The mother, who was affected by constitutional syphilis at the time of delivery, was so also during pregnancy, and might have transmitted syphilis to the child by intra-uterine infection. It seems to me an arbitrary assumption to hold the mother of every syphilitic child to have manifest or latent syphilis, and yet to make the father directly responsible for the syphilis of the child, in the belief that the fœtus in the first place inherited syphilis from the father, and that the constitution of the mother then became affected through resorption of the fœtal fluids.

Nevertheless, we must examine somewhat more closely this deeply hidden process, since a certain number of those authors who regard it as possible that the mothers of syphilitic children may remain healthy, nevertheless assume that, in many cases at any rate, the mothers, without being infected by the man in the usual manner, may become diseased in the sequel by an infection communicated through the placental circulation from the child which has inherited syphilis from the father. This theory, which was first propounded by Gardien, and accepted by Ricord and Diday,

has found an energetic supporter in Hutchinson. The method of retro-infection, however, is supposed to be very different by the different supporters of this view. Some (Ricord, Diday, Balfour) hold that the mother during or shortly after her pregnancy, without having any primary affection, shows secondary symptoms, and passes through the regular course of constitutional syphilis. According to Hutchinson, on the other hand, the blood of the mother becomes quite gradually and progressively infected, so that at each successive pregnancy, the symptoms in the mother are more marked and more specific, on which account also, the later children are, as a rule, according to Hutchinson, more severely affected than the earlier. This syphilis of the mother, acquired by retro-infection, commences at once, according to Hutchinson, with tertiary symptoms, because the disease in the mother puts on the likeness of that of the father (?), and because the father at the time of the conception almost always shows tertiary symptoms (?!). In many women a certain cachexia, which shows itself in paleness, loss of plumpness, leucorrhea, falling-off of hair, is the only sign of infection: others get fissures at the corners of the mouth, ulcers within the mouth, gummata and serpiginous ulcers of the skin, nodes upon the bones, &c. This kind of chronic retro-infection is also assumed, as it appears, by Von Zeissl, and, for individual cases at any rate, by Von Bärensprung. The latter, however, supposes that, as a rule, the wives of husbands who have latent syphilis are infected directly by their husbands, and expresses his view in this mysterious sentence, "The semen of a syphilitic man, which under ordinary circumstances is harmless to the woman, infects her as soon as it fecundates her." We need not regard this view of Von Bärensprung, which has nothing to do with retro-infection, and which, moreover, rests only upon a violent misinterpretation of those cases in which a wife is infected by her syphilitic husband in the ordinary manner about the time of conception, and afterwards passes through the ordinary course of syphilis.

The question then comes whether the evidence accepted by the remaining supporters of the doctrine of retro-infection is really conclusive enough to put beyond doubt the actual occurrence of this process. The greatest stress is naturally laid upon the absence of the primary affection, the next upon the fact that the disease in the mother only commences during or after her pregnancy. The last circumstance is evidence as to the time of the infection, but none at all as to its manner; and it appears to me that the absence of, or, to speak more correctly, the impossibility of demonstrating, any primary affection in a woman, furnishes no proof whatever of the occurrence of a syphilis d'emblée at all, and, therefore, none of such a syphilis by retroinfection. All who have had the opportunity of observing a large number of syphilitic women who have not been pregnant, will certainly agree with me in saying that in a large proportion of them it is impossible to demonstrate the primary affection or its cicatrix, or to ascertain by inquiry its occurrence or its situation. The circumstance which, in the non-pregnant, is interpreted on the supposition that the primary affection was overlooked by the patient, has led, in the pregnant, to the assumption of a retro-infection.

Moreover, the observations brought forward by Hutchinson to support his special theory of the mode of retro-infection will convince no one, who, in estimating them, observes the principle, "Perpendendæ, non numerandæ observationes." The frequently defective reports with regard to the syphilis of the children and the disease of the father, the data derived only from the statements of the mothers as to their previous freedom from disease, often fail to satisfy even the most modest requirements, and leave room for the suspicion that symptoms that had previously occurred might have been forgotten, or left unmentioned, so that Hutchinson's view appears to be an assumption in the highest degree arbitrary. We must add, that, in the case of some of the women who are said to have suffered retro-infection, the diagnosis of syphilis was a very loose one. Pale, wrinkled women, with leucorrhea and loss of hair would not be called syphilitic by any one, if their husbands and children were healthy. No one, therefore, has any right, simply because their chil (r and husbands are diseased, to reckon such women as syphilitic, in order to support a favourite doctrine of retro-infection. To sum up, we may say that the infection of the mother through the fœtus which has inherited syphilis from the father, however probable it may appear from the theoretical point of view, has not yet been established by the observations which have hitherto been published.

After this digression we return to the authors already mentioned who deny the possibility that mothers of children affected by hereditary syphilis should remain healthy. These support their view partly on the negative ground that they have never seen syphilitic children born from healthy mothers. But this will appear less significant if we consider that those who deny the mother's healthiness are for the most part specialists in syphilis. Healthy mothers have no occasion to consult a specialist in syphilis, even if they repeatedly abort with a fœtus which has inherited syphilis from the father; and the children which survive, and soon after their birth show symptoms of syphilis, they will take either to their family attendant, or to a physician for children, since they are, as a rule, ignorant of the nature of their children's disease. Similarly the syphilitic wards in hospitals are frequented not by healthy, but only by syphilitic pregnant or parturient women; and thus we may readily understand that the medical attendants of such wards see syphilitic children born only from syphilitic mothers. We certainly, therefore, in view of the positive evidence of others, cannot allow decisive weight to this negative testimony. The positive observations of Cullerier and others, according to which men who were suffering from old syphilis, or from a disease which was recent, but subjected to treatment, begot healthy children from healthy women, show only that the power of syphilis to pass by inheritance is not present in all stages of the disease, nor in every single case, but that it is gradually extinguished, and even in recent syphilis may be counteracted by active treatment.

One single fact, however, appears to tell in favour of the view that the healthiness of mothers of syphilitic children is only an apparent one, and that they are rather to be regarded as the subjects of latent syphilis. I mean the fact first

announced by Colles, and admitted by all authors almost without exception,* that the mother of a child affected by hereditary syphilis can suckle it without becoming infected by the disease. Nor has any instance ever been adduced in which such a supposed healthy mother of a syphilitic child has soon after her delivery acquired fresh syphilis in any other way, and passed through the ordinary course of the disease from primary induration to general enlargement of glands, eruptions, &c. Even a direct inoculation made by Caspary had a negative result. This is the most obscure point in the whole subject, and deserves ample consideration. The reason of the mother's immunity is certainly not to be found in the character of hereditary syphilis. Hereditary syphilis is undoubtedly just as contagious as acquired, and if a child suffering from it is suckled by a strange nurse she acquires the disease, in the majority of cases, in the usual manner.

The contagious character of hereditary syphilis, in spite of the contrary opinion of Günzburg, is established by such a large number of unequivocal observations by the most various authors, that I think I need not give the details of a case recently observed by myself. It was that of a hitherto healthy woman, mother of three healthy children, who was suckling another person's syphilitic child, in addition to her own quite healthy child of seven months old. After some weeks she not only herself had indurated ulcers on both breasts, followed after the usual interval by roseola, &c., but also subsequently infected her own child and her husband. Thus the mother of a syphilitic child, although free from all visible signs of syphilis, behaves quite differently with regard to the syphilitic infection from a woman who has never been pregnant with a syphilitic ovum. But whether on account of this immunity we should regard all mothers of children affected by hereditary syphilis as having latent syphilis, even though a continuous observation of them,

^{*} The cases recorded by Müller and Brizio Cocchi as exceptions to this law are not conclusive. The work of Gamperini, who holds as proved the infection of the mother by a child suffering from hereditary syphilis, I have unfortunately not been able to consult in the original.

maintained for years together, reveals no trace of the disease, is a different question, and, for my own part, I am inclined to answer it in the negative. If Caspary refuses to admit the mothers described as healthy by Kassowitz and others to have been really so, unless they afterwards acquired a fresh syphilis, we might with as much justice demand from those who hold such mothers to be the subjects of latent syphilis that they should adduce direct proof that they are really syphilitic from the effect of inoculations made by their blood.

It may perhaps be reserved for future investigations directed especially to this point, to demonstrate that, in certain cases at any rate, the mother of a child affected by hereditary syphilis, may acquire fresh syphilis either from the child itself, in the usual sexual manner, or by intentional inoculation. While this demonstration is wanting, we are still justified by the evidence before us in drawing the conclusion that healthy women may bear syphilitic children, and that thus inheritance on the side of the father is directly proved, and inheritance on the side of the mother rendered more than probable.

(To be continued.)

CONTRIBUTION TO THE SUBJECT OF INTRA-UTERINE MEDICATION.

By SAMUEL SLOAN, M.D.

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I WAS pleased to find in the OBSTETRICAL JOURNAL for last month a short Article by Dr. Playfair in answer to the remarks of Mr. Wiglesworth on his interesting case of Occlusion of Os and Cervix Uteri, following the application of fuming nitric acid. My experience of intra-uterine medication has extended over a period of about six years, having dated from the publication of Dr. Playfair's Lectures on that subject in the *Lancet* of 1873. Previously, I had, as a rule, refrained from introducing strong caustics beyond

the cervix uteri. Since that date, however, though I cannot say that I have daily treated patients in this manner, I have, in obstinate cases of uterine leucorrhœa, trusted solely to the application, by means of Dr. Playfair's probes, of the carbolic acid and glycerine of the strength recommended by him. And, as I have similarly treated a considerable number of patients, having not unfrequently thus operated on two or three in one day, I may claim the privilege of recording my experience on the present occasion, when intra-uterine medication is being treated with suspicion, and is having, as in the able Article by Mr. Wiglesworth, several cases of sterility laid to its charge.

But before doing so, I should like to lay down briefly the position occupied by Mr. Wiglesworth. He has applied fuming nitric acid to the interior of the cervix and to the cavity of a uterus, and he finds, after a certain period, that the cavity of the cervix has been obliterated; a minute depression alone revealing the original site of the os. By dint of patience and ingenuity he practically makes another cervical passage, and in endeavouring, about a week after, to keep this passage free, there supervenes what seems to have been a very severe attack of general pelvic inflammation; even an attempted vaginal examination giving acute pain. This attack is said to have lasted five days, and the result of subsequent treatment is summed up by the intimation that now "barely any contraction remains and menstruation is always normal and free from pain." This lady has never since conceived, though previously she had borne children, and she is still young enough to be the mother of more. The conclusions drawn by Mr. Wiglesworth from this case are that his application has presumably induced sterility by its action on the mucous membrane of the uterine cavity; and that the possibility of intra-uterine medication resulting in sterility is so great that we may be justified in warning the patient and her husband of this fact before resorting to such a course of treatment.

Well, few will dispute that the occlusion of the os and cervix uteri here was due to the application of the remedy, in what exact manner it is unnecessary to discuss at present. But it must not be forgotten that a very serious disturbance of all the pelvic organs subsequently ensued; and with no means of judging of the condition of the rest of the generative apparatus than is summed up in the statement that "menstruation is always normal and free from pain," and that "barely any contraction" of the os remains, it is obviously unfair to conclude that the condition of the mucous membrane of the uterus is alone at fault, and that for this the nitric acid is alone to blame.

But, granted that the nitric acid is alone the cause (and I, for one, am no advocate for its use), it is still an unreasonable inference that therefore intra-uterine *medication* is to be looked on with suspicion. As well infer that, because some patient has been injured by a medicine that should never have been prescribed, we may therefore be justified in warning our patients of the possible result before resorting to the internal administration of medicines.

Now, that intra-uterine medication carefully performed, in properly selected cases, and with the appropriate application, is practically as safe as is the internal administration of any of the commonly prescribed powerful medicinal agents, I am fully convinced from my experience of this mode of treatment. I freely acknowledge that the treatment has at times, in my own hands, given rise to severe pain, or to premature menstruation; but, as in Dr. Playfair's practice, this has arisen from the great confidence I have in it as a speedy remedy for an otherwise most intractable affection, and from the natural tendency there is in every practitioner to overestimate the value of treatment which has given him so much satisfaction, and thus to resort to it at too early a period of the disease, or in cases not requiring such measures at all.

But I am fully persuaded that in no case has intra-uterine medication in the manner recommended by Dr. Playfair ever resulted, in my practice, in contraction of the os; nor, in cases where women have remained sterile after a course of intra-uterine medication, could there be any suspicion that the condition of the uterine mucous membrane was at fault, and that this abnormal condition was the direct result of the remedy applied. That the same could not be said of the

other strong caustics as nitric acid, this case of Mr. Wiglesworth's testifies. I have little experience of any of them, but I have been satisfied that the frequent application of even the solid nitrate of silver may end in a contracted os; having seen such a result in my own practice. Indeed, any one who gives to Playfair's treatment a fair trial may soon satisfy himself that it is, to take extremely low ground, always a perfectly safe procedure.

But this treatment need not occupy this negative position of mere safety; and I claim for it a position second to no other as a positive means of restoring the health of the patient by arresting the leucorrhœa and relieving the painful or "burning" sensations so often complained of. Of course this remedy must not take the place of other necessary local measures, or of internal remedies, and is only to be resorted to in obstinate cases of uterine catarrh, and after the uterus has been prepared by the usual means for such an application. Full instructions on this point are laid down in a clear and interesting manner by Dr. Playfair in the Lectures referred to; and as his treatment does not seem to be generally appreciated, because comparatively unknown, this discussion will have served a good purpose if it is the means of drawing the attention of the profession to the subject.

I have stated my conviction that no case of sterility following intra-uterine medication, as I have been in the habit of practising it, has occurred in my hands, where the treatment and sterility could reasonably be considered as cause and effect. So far, indeed, has this been from my view of the relationship existing between them, that I also had come to look on pregnancy "as the nearly-certain result and proof of a satisfactory cure." And so firmly had this been impressed on my mind that I have often, before beginning the treatment of such cases, put to myself the question, where the family seemed to me already sufficiently large, whether I would not be "justified" in "warning" the patient and her husband of the probable result of my treatment.

In support of what I have stated, I append the following case, particularly as it has this element of interest in it, that

it was one of the first, if not the very first case which I systematically treated with uterine medication: -- On the 15th of June, 1873, I was asked to see a lady who had been suffering from menorrhagia and dysmenorrhœa for a considerable period. I learnt that she had had a family, but that during the last ten years she had never conceived, having been a sufferer during this period, more or less, from uterine disease. On examination I found the uterus large and tender, and an abundant catarrhal discharge issuing from the open os. This may surely be considered a test case. Well, this patient remained under treatment till the 18th November of the same year, having during that time been treated by intrauterine medication about six or eight times, generally at intervals of one week. When my attendance ceased the uterus had nearly recovered its normal condition. year thereafter I was summoned to attend her for a threatened abortion. This, happily, I succeeded in preventing, and on June 19th of the following year she was safely delivered of a healthy boy. This was followed by another confinement on the 11th of March, 1877.

Though foreign to the matter at present under consideration, I may be excused for making a few remarks on the probes used in this treatment of the uterine cavity, the more especially as some practitioners might desire to give the system a fair trial, if only they had the proper instruments. To such I would say that, at a very small cost and with little expenditure of time, probes quite as efficient and as convenient may be made out of a piece of strong copper wire. This has simply to be cut into lengths of twelve or thirteen inches each, and hammered so as to make them rigid. At one end, and to the extent of two and a half inches, they are filed till the wire is as fine as an ordinary probe and with a similar point, so as to prevent the too ready removal of the cotton. This part is also left in a rough condition by simply striking it all over with the edge of the file, and then, by inserting it into the fire till it is brought to a red heat, and permitting it to cool slowly, it is rendered as flexible as may be desired; the rest of the wire remaining rigid for use as a handle.

ON INTRA-UTERINE MEDICATION AND STERILITY.

By Arthur W. Edis, M.D.

Assistant Obstetric Physician to Middlesex Hospital; Physician to the British Lying-in Hospital.

DR. PLAYFAIR'S note in your last issue, àpropos of Mr. Wiglesworth's case of occlusion of os and cervix uteri accidentally produced by the application of nitric acid to the cervical canal to arrest uterine hæmorrhage, recalls forcibly to my mind a somewhat similar experience which, as the subject is one of great importance, may prove of interest to your readers.

I may premise that I regard the application of nitric acid, judiciously applied, in cases of long-standing endometritis accompanied by profuse hæmorrhage, as one of great value. I am in the habit of resorting to it very frequently, and with the exception of the two following cases, have never met with any occlusion of the os or cervix uteri.

M. M., aged thirty-six, had long suffered from profuse menorrhagia, dysmenorrhœa, and other well-marked symptoms of endometritis, which followed the birth of her fifth child. For this I applied nitric acid freely to the interior of the uterus on several occasions, with the effect of checking the profuse discharge and relieving the intense pain from which she suffered at her periods. Her condition improved so markedly, that from the confirmed invalid she became convalescent, and able to fulfil her various duties with comfort.

On September 4th nitric acid was applied as usual. The catamenia appeared the following day, and were somewhat profuse and painful. The next period was due on October 1st, but failed to come on. Severe bearing-down pain, aching, and sense of discomfort ensued, preventing sleep, and at length becoming unbearable. She tried warm baths, hot fomentations, opiates, and other remedies on her own account, without any relief. After enduring the pain for several days, she presented herself, stating that unless the period came on, she felt she should go mad. On

examination, the os uteri was found to be occluded. As there was no sickness or other symptom of pregnancy, and the patient stated that the possibility of this was highly improbable, I felt justified in attempting to pass the uterine sound. This at first seemed to be impossible, but on exercising counter-pressure above the pubis, and forcing the point of the sound against the depression corresponding to the os uteri, it suddenly passed in, when a gush of dark, sanguineous fluid followed, and almost before I could procure a porringer some three ounces were discharged. The patient felt immediate relief. Precautions were taken to prevent the occlusion recurring, and the sanguineous discharge lasted for another two days. There was no possibility of mistaking the discharge for that which would have occurred had a miscarriage been induced.

The second case was somewhat similar. M. T., aged thirty-two, married eleven years, mother of three children, youngest two years old, first consulted me in October, 1877, suffering from chronic endometritis. Nitric acid was applied on several occasions at about a fortnight's interval, with marked benefit, the last occasion being on April 1st, 1878.

In May she presented herself, stating that she had missed her last period more than a fortnight. The uterus was found to be more bulky than before, but thinking it possible utero-gestation had commenced, nothing was done, although the patient herself stated that she had had none of the symptoms of pregnancy. In September she again presented herself, stating that in July, having missed two periods, after severe aching pain and much discomfort, profuse hæmorrhage of a dark colour suddenly occurred, and continued for two days, affording her marked relief.

The period came on with difficulty in August, but the one due in September had not appeared, and she was suffering much from pain in her back, bearing-down, and other symptoms, as if she ought to be unwell. On examination the os uteri was found to be occluded; the uterine sound could not be introduced; I therefore passed a spear-shaped scarifier, and made a crucial incision, dark, san-

guineous fluid being forciby ejected at the time, affording instantaneous relief. Precautions were taken to prevent the os becoming again occluded, and there has been no difficulty since.

As to the question of sterility being induced by the application of strong caustics to the uterine cavity, my own experience confirms that of Dr. Playfair. I have had numerous instances where sterility, due to endometritis, has been obviated, after many years' standing, by the application of nitric or carbolic acid. Impregnation in many of these cases seems to be impossible so long as the thick glairy mucus, so characteristic of the condition, blocks up the cervical canal; but when this has been removed by appropriate treatment, pregnancy frequently ensues.

Acute pelvic cellulitis, from patients not being sufficiently careful after nitric acid has been applied to the interior of the uterus, is, I believe, of more frequent occurrence than might be supposed. This may possibly prove a cause of sterility in cases of chronic uterine disorders, where active treatment has been pursued, and may afford some explanation to Mr. Wiglesworth's observation as to the production of sterility in previously fertile females.

INTRA-UTERINE MEDICATION.

By ARTHUR WIGLESWORTH, L.R.C.P.

WHEN I published the notes of a case in which serious results had followed the application of nitric acid to the internal surface of the uterine body it was with a view of pointing out the harm that may ensue from intra-uterine medication even when every possible precaution has been taken. And it is somewhat singular that since the case was first noted two others nearly similar in character have come under my care. In the first case there was complete closure of the os and also the main portion of the cervix, due, so far as I can learn, to the application of caustic to the uterine cervix. Latterly the patient had suffered from dysmenor-rhæa, and one day was seized with all the symptoms of regurgitant uterine hæmorrhage, and her life was in con-

siderable danger. An examination showed an occluded os with a very small vaginal cervix. She was operated upon successfully, when all the acute symptoms had passed away, and the cervical walls were found to have been mutually adherent to the extent of half an inch. She has worn an intra-uterine stem ever since, its temporary removal for a short time being followed by great contraction, which rendered its re-introduction a matter of considerable difficulty. The second case called for an examination by reason of symptoms of uterine mischief. I failed, by digital means, to find the os. The speculum revealed a very minute opening situated amidst cicatricial bands, some of which originated in the vaginal mucous membrane. The opening would only admit of the passage of a very fine wire. In this instance also there was evidence of the frequent application of powerful caustics. It does, therefore, seem rather peculiar that in a purely private practice I should have three cases (in a comparatively short period) of disastrous results ensuing from internal uterine medication, whilst Dr. Playfair says "he has never seen anything in the least approaching to it." I, however, by no means stand alone in my experience of these unfortunate results, and it seems difficult to imagine that any practical gynæcologist should not have had similar cases brought under his notice; more especially when we consider how rapid has been the progress in uterine therapeutics the last twenty-five years, and the heroic treatment advocated in the earlier part of the time, Sir James Simpson, for instance, advising the melting down of from three-quarters to one inch of potass fusa on the substance of the uterine neck to remove the same conditions spoken of by Dr. Playfair, and which are familiar to every one who has devoted his time to uterine diseases. It is probable, however, that as experience is gained we shall at last find remedies that will bring about the desired results without, however, being productive of such serious after-consequences. Dr. Playfair, however, has evidently misunderstood me if he is of opinion that Inevertheless deprecate direct uterine medication. This is most certainly far from both thought and practice in my case. Unlike a writer upon the subject, if I had but the

two courses to choose-viz., direct medication to the uterus or systemic treatment—I should most decidedly prefer the former as the one most likely to permanently benefit my patients, for I fully agree with Dr. Playfair that as a rule the patients frequently become pregnant soon after (if, indeed, in some cases not before) they have left the physicians' hands. I have a typical case under treatment at the present time. My patient, notwithstanding all my care, suffers after each confinement from sub-involution of the uterus with subsequent endo-cervicitis and granular erosion. When she ceases nursing menorrhagia and metrorrhagia ensue; but knowing from past experiences that so soon as she is cured she again becomes pregnant she always postpones coming under purely local treatment until her health is nearly broken down, her excuse being, "I know as soon as you have cured me I shall become pregnant;" and her words have always proved true.

Indeed, it ought not to be otherwise. A woman having once become pregnant has certified to her power to conceive. If nothing "went wrong" afterwards—if no uterine catarrh supervened or endo-cervicitis made its appearance, with its profuse, yet tenaciously adherent, mucus-if no displacement ensued or ulcerative process was set up, or ovarian mischief interfered, she ought, in due course, to conceive again. Her not doing so clearly points out that something has occurred to her to prevent conception. If this is curable and is cured, then, as a perfectly natural sequence, she is again in a position to become pregnant, and very frequently does so. Other patients, however, suffering from the same maladies are placed under the same course of medication, are apparently perfectly cured, are anxious for more children, yet never again conceive. I know of several instances, and am fully assured that they can be supplemented.

This being so, it is but reasonable to inquire, has the medicament employed exercised any prejudicial effect? I am not solely referring to those cases I have enumerated, in which a purely mechanical impediment has been produced by treatment, but of those instances in which a woman has had one or more children—has passed into the hands of her

medical attendant for uterine disorder—has apparently been successfully cured, and yet remained sterile. Something must have occurred to prevent impregnation, and yet the cause is incapable of discovery to either touch or sight. the majority of these cases the treatment has been merely intra or extra cervical—not intra-uterine proper; for I am indisposed to think that in all cases intra-uterine treatment has been required, or that because we have evidence by sight that granular erosion, &c., exist cervically, therefore similar conditions extend to the fundus. Nevertheless. whether the treatment has been directed to the whole of the uterine canal or limited to the cervix, sterility does at times ensue. Is this condition, then, due to the treatment that has been employed? This is the question that I have put to the practical gynæcologist, and it is one that I think is deserving of serious attention. I fully grant that an immense number of cases are cured by local treatment, and the subjects thereof again bear children. Still, the reverse is frequently to be found; and, bearing this in mind, ought we to undertake the cure of such cases by local treatment in those instances in which sterility would prove to be disastrous to those most nearly concerned, without previously informing them of the possible results? These are two important questions, which, in my opinion, can hardly be satisfactorily answered by individual practitioners, and one of which will require for its complete solution, not only tabulated results extending over a series of years, but evidence which only the post-mortem room can furnish.

CASE OF MENSTRUATING ULCER.

By George Buchanan, M.A., M.D.

Professor of Clinical Surgery in the University of Glasgow.

VICARIOUS menstruation in the form of hæmoptysis or epistaxis is, I believe, familiar enough to practitioners of medicine; but the occurrence of a sanguineous discharge from an ulcer on the leg, at periods corresponding to the dates of the menstrual flux, which had become suppressed, is sufficiently rare to warrant a report of the case.

Mrs. G., aged forty-one, married two months ago, was admitted to Ward XI. of the Glasgow Western Infirmary, on the 10th of January, 1879, with the following history:— When about fifteen years of age she became subject to occasional sudden flushings of the face, accompanied by a slight degree of confusion of her ideas. She lived in the country, and was a healthy young woman. Her medical attendant attributed this to "fulness of blood," used venesection, which, she said, "quieted her down." This occurred for three successive springs, after which the menstruation came on, and has continued nearly regularly till six years ago. The menses have always been scanty and short in duration, but the flushing to which she used to be subject disappeared after the occurrence of menstruation.

Six years ago, after using considerable exertion in breaking sticks, which she did with her right foot, she felt a pain in the calf. The integument became inflamed, and ultimately an ulcer formed over the outer and lower aspect of the leg. This ulcer has never been healed.

On admission, the outer aspect of the right leg is found to be occupied by a large ulcer, about eight inches long and six inches broad at its largest part. The edges are irregular, and its surface is covered with a greyish, unhealthy, not very copious, discharge. The tissues around are slightly swollen, but there is no varicosity of the veins.

The day after admission, pretty copious hæmorrhage occurred from the surface of the ulcer, sufficient to soak the bandages used to retain a water dressing which had been applied in the first instance, and to trickle on to the bedclothes. This continued for forty-eight hours, in spite of a bandage applied by the house-surgeon with moderate firmness. Fearing that this bleeding might have been caused by some injury received during her journey to the hospital, I inquired about it, when the patient informed me that since the date of the injury, six years ago, she has not menstruated at all; but that every month, about the time of the expected appearance of the flux, the ulcer has bled, just as on this occasion, and the bleeding has continued for two days—about the same time as the menstrual flow used to be, before its suppression.

After the bleeding had ceased the ulcer had the ordinary appearance of a callous, rather foul, ulcer. A fly-blister was applied all over the surface and an inch over the margin.

27th January.—The effect of the blister has been to produce a clean, red, granulating surface; the edges thinned away, and sending out in all directions the thin pellicle of tissue which indicates progressing cicatrisation.

Whatever the ultimate result may be, the interest of the case is in the variety of vicarious menstruation.

Abstructs of Societies' Proceedings.

OBSTETRICAL SOCIETY OF LONDON.

Meeting, February 5th, 1879. Dr. Playfair, President, in the Chair.

New Form of Ovum Forceps.

Dr. HICKINBOTHAM, of Birmingham, showed a new form of ovum forceps. He thought the very best instrument for removing the ovum was the finger, on account of its sensitiveness. These forceps were made, with the idea of imitating this quality, on the model of dissecting forceps, with a very elastic bow at the junction. They were also provided with a second blade, which would go through a very small opening, and might be so adjusted that the blades met in concavo-convex fashion. He also showed a speculum like a short Ferguson, with a piece of one side cut out, so that the os might be touched; and an intra-uterine stem having a pair of wings at the base, which could be closed up in a line with the stem, but spring open subsequently, so doing away with the disc or globe at the end, which was a hindrance to introduction.

Dr. AVELING asked why Dr. Hickinbotham invented ovum forceps if he considered the finger so much the best instrument. If any forceps were used, that of Dr. Rasch was perhaps the best, since the finger served as one blade of the instrument. The principle of the speculum shown was not a new one.

Uterine Mucous Membrane immediately before Healthy Menstruation, associated with a Graafian Follicle ruptured several days.

Dr. Galabin showed the ovary and microscopic sections of the mucous membrane of the uterus from a healthy woman, aged twenty-five, who was murdered by a stab which divided the femoral artery. At the autopsy, the uterine mucous membrane was found swollen

and gelatinous, about one-fifth of an inch thick, with spots of hæmorrhage in its substance, but none on the surface. It was clear that menstruation must have been imminent, although no history of the date of the last period could be obtained. The ovary showed a follicle five-eighths of an inch in diameter, containing a partially decolorised clot, and having apparently been ruptured as much as three or four days. Sections of the uterine mucous membrane showed that the gland cavities were dilated in the deeper half, so that the section had a cribriform appearance, and disruption easily took place at this level. The condition resembled on a small scale the dilatation of glands which forms the plane of disruption for the decidua of pregnancy. There was no commencement of desquamation of the surface, and no fatty degeneration could be detected.

Case of Extra-Uterine Fætation—Spontaneous Cure.

Dr. Priestley showed the feetal bones from a case of extra-uterine fœtation. He first saw the patient in May, 1866. There were then anomalous symptoms. The menstrual period had been missed two weeks, and severe pain then came on. He saw her again on June 10th, and then recognised a swelling of no great size on the right side of the uterus, with some swelling also on the left. On August 22nd, the swelling had increased, and the cervix was pushed forward in front of it. The patient appeared then pretty well. On October 14th, rigors and other severe symptoms had come on, and the swelling had further increased. A consultation was then held with Dr. Farre and Dr. Oldham, and extra-uterine foetation was thought probable, although retroflexion of the gravid uterus was considered as an alternative. The question of operation was discussed, but it was decided to temporise. On November 12th, scybala were passed, and there was afterwards improvement in the symptoms. On December 7th, menstruation recurred for the first time, and afterwards continued regular. There was a gradual diminution of the tumour, and the patient was able to get about. In February, 1878, however, the patient again came under observation, having now an offensive discharge, looking ill, and suffering from rigors. A hole was found behind the cervix, in which a piece of bone projected. It was extracted under an anæsthetic, and proved to be a fœtal tibia. In a series of operations, lasting from February to July, the whole fœtal skeleton was removed, and the patient was now perfectly well. He thought that the issue of this case warranted the practice of noninterference in a considerable number of instances.

The President asked if there were any theory as to the situation

of the fœtation.

Dr. PRIESTLEY considered that it was *possibly* tubal, since sharp symptoms appeared in the early stage, and that after rupture of the sac it became developed in the abdominal cavity.

Dr. Barnes said that the swelling of an extra-uterine fcetation generally dipped into the pouch of Douglas. When any mass was

found in such a position, and there were any feverish symptoms, there was no harm in puncturing by rectum or vagina. He had often in this way hit upon pus, or evacuated a dermoid cyst. He should not himself have adopted the *laisser aller* principle quite so far as to

leave a source of irritation and danger for so many years.

Dr. Bantock said that so important a question should not be decided by the result of a single case. Many were on record which resulted like that now recorded, but there were many others also in which the issue was less favourable than it might have been if timely interference had been undertaken. The fatal cases of early tubal feetation were those in which, if we could have diagnosed them, operation would have been desirable. He would not himself interfere in a case in which a tubal feetation had ruptured, and the fœtus had fallen into the pouch of Douglas. This was the most favourable of any, for the fœtus must die sooner or later.

Dr. Rogers asked why there had been such long delay in emptying the sac. He had himself been able at one or two sittings to evacuate a much more considerable quantity of bones. He thought it wise to puncture when there were any serious symptoms, and did not consider that the danger would have been increased by doing so

in this case.

Dr. Priestley said that when the acute symptoms were present, it was thought unwise to operate. Afterwards the patient went about, and nothing called for interference. The bones were removed *seriatim* as they presented themselves, the patient being too sensitive to allow much interference without an anæsthetic.

Tumour of Rectum.

Dr. Barnes showed a tumour which had been protruded from the rectum during labour. At a previous labour three years before a mass had come down from the bowel, which was taken to be a prolapse of the rectum and returned, nothing more being heard of it. At the succeeding labour, a few weeks ago, the same mass again came down. He found it to form part of a ring of piles round the anus, springing from just within the sphincter, and removed it by the galvano-écraseur. It was firm and hard, and as large as an orange when fresh. The structure was cavernous at the base, but mainly fibro-cellular, and it grew from a broad basis. He was of opinion that it originated in some chronic overgrowth of connective tissue round a pile.

Apparatus for Intra-Uterine Injections.

Dr. Potter showed a case containing an apparatus for injecting the uterus in post-partum hæmorrhage. The only novelty was its portability. The tube was nine or ten inches long, and was made up of three pieces. The case contained a bottle of dry perchloride of iron and a Higginson's syringe, and measured only five inches by four in width, and two in depth.

Gravid Uterus at Full Term.

Dr. FITZPATRICK showed a gravid uterus at full term, obtained from a patient who had died after a sudden attack of delirium before labour had commenced. He had been summoned to vindicate the midwife who was attending. Unfortunately the incision through the abdominal wall had opened the front of the uterus, and revealed the forearm of the fœtus.

Dr. Priestley suggested that frozen sections should be taken of the specimen.

President's Address.

The President then delivered the following Address:-

GENTLEMEN, -- My first and most pleasing duty is to offer to the Fellows of the Society my respectful and heartfelt thanks for the distinguished honour they have done me in electing me their President. Ever since I commenced practice in London this Society and its work has been one of my chief centres of professional interest, and I am proud to confess that it has always been to me a matter of anxious hope that at some distant time I might be privileged to hold the position which, through your favour, I assume to-night, far sooner than I had ever ventured to anticipate. I trust you will believe that I am correspondingly grateful, and that I will endeavour to the utmost of my ability to justify the confidence with which you have honoured me. And, indeed, I may truly say, for the encouragement of our younger Fellows, that I know of no class of work which more surely carries with it its own reward, in the highest sense of that word, than that in which such a Society as ours is engaged. In our hospitals and private practice we gain, it is true, much experience, but the contact with the experience of others, and the very criticism, sharp and unpleasant though it may sometimes be which our most cherished views are apt to meet when brought under the notice of our fellow-labourers, is of inestimable value in preventing us from becoming over-dogmatic and one-sided, and in forcing on us that breadth of view which is so essential for a truly scientific practice of our profession.

It has been well remarked by one of our most talented essayists that, "whatever our calling, we can never rise in it unless we exalt to an exaggerated degree the elevation of the calling itself;" and he quotes, in illustration of this, Hazlitt's well-known saying, that "the city 'prentice who did not think the lord mayor in his gilded coach the greatest of human beings would come to be hanged." If I might paraphrase that dictum and apply it to ourselves, I might say that the obstetrician who did not consider his own department of practice to be the most important of all branches of medical science was unworthy of the office which, through your suffrages, I occupy to-night. Whatever, gentlemen, may be my failings and shortcomings in other respects, that, at least, is not one of them; for I have always felt, and striven to maintain to the utmost of my power, that, whether as

a subject of scientific study, full of interest, possessing much ground vet untilled, and offering a rich harvest of results to the zealous cultivator, or as a branch of practice which includes much of the daily work of the practitioner, and involves the deepest and most anxious responsibilities which he has to deal with, there is no department of medicine of greater importance than that which it is the special province of this Society to foster and to advance. Unfortunately, as we all know, this view of the importance of obstetrics is not universally entertained, and there is still much prejudice and much misunderstanding amongst those who have the chief voice in the management of our ancient medical corporations, and, on that account, much influence upon medical legislation, as to the proper scope and position of this branch of medicine. In saying this, I attach no special blame. We all know how difficult it is to shake off old views and prejudices, how strong the conservative instinct is in all of us, and how much any given way of looking at a subject is a matter of education. I am therefore far from thinking that the non-recognition of the claims of obstetric medicine is at all surprising. On the contrary, in a department of practice the large development of which is of such recent date, it is, I believe, only what might have been expected, and might, I doubt not, be paralleled in a hundred other instances. At the same time, there is all the more reason why those who know better should use their utmost endeavours to bring about a more satisfactory state of things, and in this, in what may be called its political aspect, I cannot but think that a Society such as ours will find a most important sphere of work. The promised medical legislation, which is likely soon to occupy Parliament, will, no doubt, afford us abundant opportunity of expressing our views on such subjects as the licensing of midwives and the like, to which the attention of the Council has already been seriously directed. however, my intention to occupy your time by a consideration of all that might be done in this direction. There are, however, two points in particular on which I think it is our bounden duty to bring the weight of our opinion as strongly as possible before the profession, and on these I must beg your permission to make one or two brief observations.

One of these is the very unsatisfactory constitution of the Medical Council as regards obstetric medicine. It seems to me to be nothing less than absurd that in what is supposed to be a representative assembly, there should not be a single individual who practises that department in which nineteen out of twenty members of the profession are so largely interested. Is it surprising that whenever obstetric questions come before the Council they are dealt with in a manner which is so thoroughly unsatisfactory? Nor is there the slightest reason why this anomaly should exist. The names of several of our Fellows will at once suggest themselves to you, who, from their position and talents, are in every way admirably qualified for a seat in the Council, and whose opinion would necessarily carry with it much weight.

The other point is the present state of the curriculum in the medical schools as regards obstetrics. This has been recently forcibly dwelt on by one of our vice-presidents, Dr. Edis, in his introductory address at the Middlesex Hospital School of Medicine, which is worthy of your study. The subject is not, however, a new one. All, or nearly all, the teachers of midwifery in London have already collectively expressed their opinion upon it, and to them, if they are desirous of doing their duty honestly, the question is one of vital moment. I confess that it is with a feeling of something akin to shame that I reflect that I am supposed to teach a class of young men the entire subject of Midwifery and the Diseases of Women and Children, in a short summer course of something under forty lectures. The thing is a manifest and ridiculous absurdity. Hence we have, of necessity, to omit, year by year, at least half of midwifery proper; while as to the diseases of women and children, it is simply impossible even to allude to them. The result is that students leave our schools more ignorant of obstetrics than of any other subject; acquiring by a superficial cram only sufficient knowledge to satisfy the limited requirements of most of our examining boards; and, if they are satisfied, as so many are, with the diploma of the Royal College of Surgeons only, even that limited acquaintance with midwifery is unnecessary. I suppose I am not guilty of any serious breach of confidence if I state that at a recent meeting of the Fellows of the College of Physicians, one of the examiners of the College, himself a respected ex-president of this Society, drew attention to the ignorance displayed by the candidates for the College licence as to the application of instruments, and proposed that the College should, by a circular, direct the attention of the teachers at the various schools to this point. I would venture to suggest that he was here putting the saddle on the wrong horse. It is not the teachers who are to blame for not effecting impossibilities, but the system, for which the College of Physicians is itself partly responsible. It is especially to be deplored that in the metropolis, where we should naturally expect a high example to be set, the medical corporations are the worst offenders in this respect; for while the Royal Colleges of Physicians and Surgeons, and even the University of London, are satisfied with a certificate of attendance on a single three months' course of lectures on Midwifery, the universities in Scotland insist on a course of not less than 100 lectures, while the Calcutta Medical College, an institution in every way admirable, with which I had myself the honour of being formerly connected, requires two courses of seventy lectures each. In the face of such facts, well may the late Principal of that College write to me, "I am proud to think that some of you will not rest until you have seen this great evil set right. To what a hideous extent is the practice of midwifery carried on in England by utterly unqualified men, whom the unhappy women and their friends believe to be qualified, and the system in our hospitals sadly favours this." You, gentlemen, who have acquired the knowledge you ought to have

gained at your schools by much subsequent study and painful experience could, I doubt not, tell many a sad story of blighted health and homes rendered desolate by this lamentable ignorance of a large and important part of practice. So long as legislation is conducted and examinations regulated by those who are themselves entirely ignorant of obstetrics, reform is next to hopeless. I think, however, that you will agree with me that it is the duty of a Society such as this to agitate the question, and not to rest satisfied until obstetrics are placed on an equality with the cognate subjects of medicine and surgery, with which, whatever may be said to the contrary, the common sense of the profession has long placed them, both as regards teaching at our schools and proper testing at our examinations. Nor has the Council of this Society, with whom the initiative in such matters chiefly rests, ever been backward in its duty on these points in the past, and it may be trusted to be no less mindful of the interest of our subject in the future, whenever a fitting opportunity presents itself.

Questions such as these, however, important though they be, have little to do with the practical work of our Society. It may not perhaps have struck many of you that we are this year entering on a very interesting epoch of our existence. Founded in the year 1858, we are commencing our twenty-first year, and are coming of age. Many of our original Fellows are happily still amongst us, some of them are, doubtless, here to-night, and I am sure that they may look with pride and complacency on the healthy and vigorous manhood of their child. Beyond any doubt the Obstetrical Society of London has far more than fulfilled the hopes and anticipations of its founders. The steady annual increase in the number of our Fellows is, of itself, as good a practical proof of its thoroughly satisfactory condition as could be desired; but much more important than this is the real honest work that it has done, the numerous valuable contributions to obstretric medicine contained in its Transactions, and the high opinion entertained of it by the profession in all parts of the world. When newly born there were some who looked with a little suspicion on the bantling, and held aloof from it. The Society always felt a lively regret that amongst these were two of the most eminent obstetricians in the metropolis, men whose support a society with our aims could ill afford to do without, and whose co-operation it would have given much to gain. If any further proof were required of the way in which our youth has been passed, it would be found in the fact that one of these now holds the office of our honorary President, the other has just vacated this chair, which he has filled for two years with an unfailing courtesy, and an unwearied effort to promote the interest of our Society, which have never been surpassed by any of his predecessors, and which need no comment from me, although they may well fill me with apprehension that, judged by so high a standard, you may deem in the future that I have failed in properly fulfilling the duties with which you have entrusted me,

If we are asked to what the exceptional success of the Society has been due, I think the proper answer would be that it was not to any special energy or talent on the part of its founders and Fellows, but to the fact that it deals with subjects of deep practical interest to a large majority of the profession, the discussion of which was nowhere eise adequately attempted, and that it thus supplied an obvious want. Even this, however, would not have been a sufficient explanation were it not that the subjects it more particularly is occupied with had made such astonishing progress within a comparatively short space of time. It is, of course, impossible for me to occupy your time with any attempt to prove this assertion by a review of the state of obstetric science as it is now and as it was at the time the Society was founded. It would not, however, be difficult to show you that even with regard to midwifery proper there are few departments of practice in which more work has been done in a short period; while as to gynæcology, we may surely say that, as a scientific study, it is an entirely new creation. Take, for example, the standard works on Diseases of Women some of forty or fifty years ago, such as those of Sir Charles Mansfield, Clarke, and Gooch, and although they contain, especially the latter, much accurate observation and graphic description, yet you will not find in them even the most distant allusion to nine-tenths of the work with which the modern gynæcologist is so familiar. The reason of this rapid progress is obvious. Until careful local examination, both digital and instrumental, was commonly practised in diseased conditions of the uterus, any knowledge of its morbid states was merely conjectural. The gynæcologist, before this was common, was in the position of the general physician with regard to diseases of the heart and lungs before the discovery of auscultation, of the oculist who knew nothing of the ophthalmoscope, or of him who treats diseases of the larynx without the laryngoscope. Now we may truly say that there is no organ of the body the condition of which can be more accurately ascertained than that of the uterus. And it would be difficult to speak of this subject without recognising the extraordinary impetus it derived from the zeal of its earlier cultivators, especially from that of my old master, Sir James Simpson, whose contagious enthusiasm and energy, misdirected although we may admit them sometimes to have been, yet were of enormous value in promoting the study of the diseases peculiar to women.

Like all comparatively new subjects, however, gynæcology has hitherto progressed more by empirical observations and experimental practice than by careful scientific investigation based on ascertained pathological facts. I would venture to impress this upon you as strongly as possible, because I am sure you will agree with me, that if we are to remedy our defects, it is wise frankly to recognise them. It is true that it is specially difficult for us to pursue the necessary pathological inquiries, since they are incompatible with the safe practice of midwifery. Still, empirical observations, which are not verified and tested in this way, are always apt to lead us astray. We

can no more talk with certainty, for example, of such conditions as endometritis, flexions, or ovaritis, without a knowledge of the condition of the parts affected, than could the general physician of pneumonia from a study of crepitation and dulness on percussion only. It is from the want of this kind of knowledge, as it seems to me, that we have so much of those crude theories and hasty generalisations, with consequent errors in practice, on which our opponents are apt to insist so much. And it must, I fear, be admitted that there is some ground for this sneer. It is beyond doubt that we have had regretable cycles of opinion as to the importance of certain classes of uterine disease. Some ten or fifteen years ago every anxious female inquirer asked if she was ulcerated; now, most of our patients express the sentiment, if they do not use the words, of the lady who, the other day, imploringly said to me, "Doctor, for God's sake tell me-am I displaced?' Admitting this, it is very far from being the case, as so many erroneously conclude, that no attention need be paid to such conditions as the so-called ulceration or abrasion, or to flexions. Rather let us draw from this the lesson to study these lesions more deeply; let us ascertain in what they really consist what cases require treatment, and of what kind; and we may be sure that when our knowledge is deeper and more scientific than it is now, divergences of opinion and errors of practice will vanish. our work is conducted in this spirit, we need have no fear that in due course of time it will gain the respect and adhesion of those who now look upon it with doubt and suspicion.

It has been objected to gynæcology that it is more liable to abuse than many other departments of practice; that some of its followers have traded upon the fears and fancies of hysterical women, and magnified their ailments to their own advantage. I am not concerned to deny that there are some peculiarities in this line of practice which lend themselves to such deception, if the practitioner be dishonest enough to avail himself of them; but I do most strenuously deny that this has ever been the case to any appreciable extent; and if black sheep have existed or do exist among us, I am very sure that the free and open discussions of a Society such as this are, of all other things, the very best for bringing reprobation on such conduct, and

preventing others from following the evil example.

And now, gentlemen, I shall not farther trespass upon your good-nature; but, in conclusion, shall, as it is most fitting I should, renew before you the obligation contained in our rules, which all of us have taken on joining the Society, "I hereby promise that I will, to the utmost of my power, promote the honour and interests of the Obstetrical Society of London."

On Digital Dilatation of the Os Uteri during Labour.

By Dr. Braithwaite.

The author stated that there was often delay in the first stage of labour from weariness and other reasons. There were other cases,

such as that of eclampsia, in which it was desirable to accelerate the first stage. In both varieties the present treatment was unsatisfactory. Barnes's dilators were not always satisfactory, and digital dilatation in the usual mode was not suitable at this stage. He might quote, as an example, one case in which delay had proved fatal to the child. It was one which had delayed him two days in the country. There was slight pelvic contraction, and the head remained covered by the lips of the os. He delivered with difficulty by forceps, but the parietal bone of the child was bulged in by the pressure of the blade. He made an incision, and raised the bone by the point of scissors. The hæmorrhage which ensued was stopped by pressure, but the child died the same day. In cases of the kind he had found Barnes's dilators useless, since a sufficient portion of the bag could not be introduced and kept within the os.

His own method was to introduce the index, or index and middle fingers of both hands back to back, crossing the hands. Pressure was thus exercised from within, and the operator could easily regulate the degree of force, which was in excess of what was required. The direction might be changed, so that the whole circumference could be acted on. In only one of the cases in which he had used the method was there any suspicion of harm having arisen

from it.

CASE I.—A primipara was attacked by eclampsia leading to coma, and appeared in imminent risk of death. Chloroform could not be used, since it seemed to increase the laryngeal spasm. By the method described the os was dilated with the greatest ease, two fingers being used at first, and four fingers, as soon as the os had reached the size of a crown-piece. When the os was the size of a teacup, forceps were applied, and a dead child, rather under full term, was extracted. The whole process occupied less than an hour. Chloroform was afterwards given, and the patient recovered.

CASE II.—Was also one of eclampsia in a primipara, near full term. The fits were at first at fair intervals, and the patient was only half-unconscious. After a while the fits became more frequent, being apparently synchronous with the pains, and the patient appeared in danger, the os being the size of a florin. The author dilated it rapidly by his method to the size of a teacup, and then left the delivery to Nature, chloroform being employed. The patient

recovered.

Case III.—Was that of a very stout and lazy woman in her sixth labour. Irregular ineffective pains lasted from Friday till Wednesday, and little food was taken or sleep obtained meanwhile. The author then ruptured the membranes, but there was still no advance. He then dilated with three fingers, and in doing so detected a rigid ring of circular fibres just within the os. The patient did well, but, on examination some time afterwards, the uterus was found to be large, and there was a small spot of erosion, which was cured by treatment. He considered it an ordinary case of subinvolution rather than any sequel of the treatment.

Case IV.—In a sixth labour the anterior lip of the os was carried down in front of the head. Two fingers of each hand were used, and long forceps afterwards applied. The patient had been in good health since.

Case V.—The dilatation of the os was very slow, though labour pains were severe. The os was as large as a florin, rigid, and unyielding. Two fingers were first employed in dilatation, and

afterwards three. The patient did well.

These cases all occurred in the last two years, and were the only ones out of 400 in which he had found dilatation necessary. Great gentleness and care, as well as manipulative dexterity, were required, and the dilatation should only be undertaken when necessary. Probably the plan he had used might have occurred to others, but

he was not aware that it was mentioned in any text-books.

The President said that the subject was one of great practical moment. An indiscriminate recommendation of such a plan, unless very carefully guarded, might lead to mischief being produced. Under Professor Hamilton the question of digital dilatation was very hotly discussed at Edinburgh, and opinions were divided into two camps. The author omitted any mention of the use of chloral, which was one of the greatest recent improvements. It would dilate an os which otherwise would have held out many hours. He had no objection, however, to pushing up the anterior lip of the os with

the fingers, if it descended in front of the head.

Dr. Barnes said that there were two points to be noted in the paper-first, the treatment of eclampsia; secondly, the mode of dilatation recommended; and these were to be considered separately. If you could get in one, much more two, fingers, there was no difficulty in inserting the *largest* dilating bag. The soft regular pressure of the bag was much superior to that of the fingers, which stretched two points only. The digital plan also caused more strain of external parts, when the os was high, as it often was when dilatation became necessary. When the fingers began to tire, the danger of irregular force was increased. If any difficulty was found in using the bags, it was from their bad shape. If not made sufficiently fiddle-shaped, they would slip out. The use of them, aided by chloroform, was the safe method of treating eclampsia. Chloroform was as good as chloral, if not better. It took away the excessive reflex susceptibility. Otherwise the use of the catheter or the onset of a pain might excite a fit. The use of chloroform probably accounted for the good result in Dr. Braithwaite's cases. Digital dilatation was a very old and a bad practice, but he did not know that any one had recommended Dr. Braithwaite's plan of crossing the fingers. In eclampsia he had often dilated up the os and delivered within an hour, but he had come to think that it was a bad plan to do so, and that it increased the shock to the nerves. After rupture of the membranes the symptoms were often ameliorated, and he now thought it better to proceed more slowly,

Dr. Priestley asked if Dr. Barnes had not often found a great tendency to expulsion of the bags as soon as a pain came on. This had often happened to himself, and he had found it necessary

repeatedly to reintroduce them.

Dr. Barnes said that it all depended upon the bad shape of the bags. If properly made, the more they were distended, the better they would hold. But he regretted to say that some instrument-makers did not scruple to sell bags against which he protested. The finger should be kept now and then in the vagina, to see if the bag were in place, and if it appeared to be slipping more water should be injected.

Dr. Edgs protested against the plan of dilatation with fingers when other means were at hand. He had himself, however, in one case, where a patient was very nervous, dilated with two index fingers. She was so pleased with the result that she told him she would rather have twins with him than a single child with any one else. But in general it was somewhat hazardous to use so unequal a pressure, as the cervix was generally high up, when dilatation was called for.

Dr. Aveling said that there was one drawback to the bags which had induced him always to prefer the hand as a dilator. The life of india-rubber was limited to three years, and, when wanted, the bags were apt to break. He preferred the hand used in the form of a cone. This exerted a more equable pressure than two fingers, and, as being a sensitive dilator, was safer than an automatic one.

OBSTETRICAL SOCIETY OF DUBLIN.

Meeting, Saturday, November 16th, 1878.

THOMAS DARBY (outgoing President) in the Chair.

Clinical Report of 752 Cases of Forceps Delivery in Hospital Practice.

By George Johnston, M.D., F.Q.K.C.P., F.R.G.S.; ex-Master of the Rotunda Lying-in Hospital, Dublin.

As I have been for many years an advocate for the more frequent use of the forceps in assisting delivery, I beg leave to say that I became so from the circumstance of having witnessed on many occasions the direful results arising from allowing the labour to continue for hours unrelieved—in fact left, as we were instructed, to depend upon the efforts of Nature. The painful effects of such a system became frequently evident in numerous instances of inflammation and sloughing of the vagina, ruptured uterus, and other accidents, too often terminating in fatal consequences.

I wish, therefore, to lay before you a *résumé* of the results of the practice which was adopted during the seven years of my mastership of the Rotunda Lying-in Hospital, from November, 1868, to November, 1875; but before doing so, if it would not be considered prolix,

I beg leave to quote the observations made on the subject in my

Clinical Report for 1872:-

"Having now for some time closely watched the process of labour, and carefully considered all the circumstances attendant upon the descent of the feetal head through the pelvis, the injurious effects produced by its long pressure on the soft parts, and in cases where the liquor amnii has escaped at the commencement of labour, the danger that arises from the head pressing on the expanded cervix uteri before the os is fully dilated, we have come to the conclusion, and our established rule is, that so long as Nature is able to effect its purpose without prejudice to the constitution of the patient, danger to the soft parts, or the life of the child, we are in duty bound to allow the course of labour to proceed. But as soon as we find the natural efforts are beginning to fail, and after having tried the milder means for relaxing the parts, or stimulating the uterus to increased action, and the desired effects not being produced, we consider we are justified in adopting prompter measures, and by our timely assistance relieve the sufferer from her distress and danger, and her offspring from an imminent death.

"Why, may I ask, should we permit a fellow-creature to undergo hours of torture when we have the means of relieving her within our reach? Why should she be allowed to waste her strength and incur the risks consequent upon the long pressure of the head on the soft parts, the tendency to inflammation, and sloughing of the vagina, or the danger of rupture of the uterus—not to speak of the poisonous miasm that emanates from an inflammatory state of the passages, the result of tedious labour, and which is one of the fertile causes of puerperal fever and all its direful effects, attributed by some to the influence of being confined in a large maternity, and not to its proper source—i.e., the labour being allowed to continue till inflammatory symptoms appear, and the patient worn out by the fruitless efforts of the labour pains and the evils consequent there-

from?

"The more we consider the benefits arising from timely interference, and the good results which follow it, the more are we induced to pursue the system we have adopted, and to inculcate and impress on the minds of those we are instructing the advantages to be gained by such practice, both in saving the life of the child, as well as securing the greater safety of the mother. At the same time we do not forget to point out that, although the forceps in the hands of the skilful operator is a perfectly safe and innocuous instrument when used cautiously and with due regard to the internal conformation of the pelvis, on the contrary it becomes the very reverse when its use is attempted by those not thoroughly acquainted with the mechanism of parturition, or who have not acquired that sensitiveness of touch which is so essential to the obstetrician. That although to the looker-on their application may appear simple and easy of accomplishment, still that the greatest care and caution is

required in the mode of their introduction, the accuracy of their

application, and, eventually, in the method of extraction."

In order to show clearly the result of the practice, the accompanying Table has been framed, by which it will be seen that during the seven years it was deemed prudent to employ the forceps in 752 cases out of 7862, total delivered, exclusive of abortions—average, 1 in 10½—554 of which were primiparæ and 198 pluriparæ.

TABLE No. I. Showing General Results of all the Cases Delivered by the Forceps.

	No. of Pregnancy		CHILDREN									Result to Mother		Death of		
		First		Total		Alive at Birth		Dead at Birth		Lived		Died			Mothers Average	
	First	Subs	м.	F.	M.	F.	М.	F.	М.	F.	М.	F.	Recovered	Died		
Primiparæ Pluriparæ	554	198	335	219 87	316 93	214 75	18	5 12	289 83	199 67	27 10	15	506 188	48 10	I in II½ I in 19½	
Total	7.	52	446	306	409	289	37	17	372	266	37	23	694	58	I in nearly 13	

Of the 554 primiparæ, 335 were delivered of male children, and

219 of female.

Of the 335 male children, 316 were born alive, and 19 were dead at birth. Four of these being dead and putrid, leaves 15 for which the practice may be considered accountable. Average, I in 221/3. Although I say "for which the practice may be accountable," I do not mean that the forceps being used was, in all those cases, the cause of the death of the child, as it is evident that many of them would, if left to the natural efforts, have perished from the longcontinued action of the uterus or other causes.

Of the 316 males born alive, 289 lived and 27 died, or 1 in 11\frac{1}{3}. Of the 219 female children, 214 were born alive, and 5 were dead at birth. Average, 1 in 434.

Of the 214 born alive, 200 lived and 14 died, or 1 in 1534.

Mothers.—Of the 554 primiparæ, 506 recovered and 48 died, or 1 in 11½. Of these 48, 28 were suffering from great mental anxiety, attributable principally to seduction, 12 of whom died of peritonitis;* 4 of pyæmia;† 1, phthisis;‡ 2, acute bronchitis; 1, acute laryngitis; 1, clot in heart; 1, nephritic disease; 1, gastro-enteritis; 1

+ One came from the Island of Jersey to avoid publicity. ‡ Phlebitis followed.

^{*} One attempted suicide before coming in. One commenced drinking whisky on finding she was pregnant. In this case there was sloughing of the perineum.

[§] Died suddenly on second day. Post-mortem examination—clot found in left ventricle of heart.

1, typhoid fever;* 1, scarlatina;† 1, rupture of the uterus;‡ 2, of extreme fretting—no pathological appearance at post-mortem examination.

Of the remaining 20, 4 died of peritonitis, 3 of pyæmia, 2 of sloughing (1 where there was complete separation of the cervix from the body of the uterus, and 1, a case of sloughing of the vagina, caused by too frequent examination), 2 of gastro-enteritis, 5 convulsions, 1 meningitis, 2 nephritis, and 1 from shock.

Pluripara.—Of the 198 pluripara, 111 were delivered of male

children, and 87 female.

Of the III male children, 93 were born alive and 18 were dead at birth, 3 of these being dead and putrid, leaving 15, or I in $7\frac{6}{15}$. Of the 93 males which were born alive, 83 lived and 10 died, or I in $9\frac{1}{31}$. Of the 87 female children, 75 were born alive and 12 were dead at birth, I of these being dead and putrid, leaving II, or I in 8. Of the 75 born alive, 67 lived and 8 died, or I in $8\frac{1}{19}$.

Mothers.—Of the 198 pluriparæ, 180 recovered and 10 died, or 1 in 19\frac{4}{5}. 2 of these were suffering from great distress of mind, having been deserted by their husbands, 1 died of acute bronchitis,

the other of acute pleuritis.

Of the remaining 8, 1 her 5th pregnancy, died of peritonitis.

erysipelas. 3rd 22 typhoid fever. 2nd 22 rupture of uterus. ,, 3rd convulsions. ,, 2nd ,, 2nd fungoid tumour of uterus. shock. 1 ,, 4th I ,, 5th carcinoma uteri. 22 22

Thus it will be seen that of the total 752 deliveries with the forceps, 446 male and 306 female children were delivered. Of the 446 male children, 409 were born alive and 37 were dead at birth, 7 of which were putrid, and therefore not counted; the average being 1 in $14\frac{5}{6}$. Of the 409 male children born alive, 372 lived and 37 died, or 1 in $11\frac{2}{37}$. Of the 306 female children, 289 were born alive, 17 were dead at birth, 1 of which was putrid; thus 16 are to be accounted for, or 1 in $19\frac{1}{8}$. Of the 289 born alive, 266 lived and 23 died, or 1 in $12\frac{1}{2}\frac{3}{3}$. The total number of children saved were—

Male, 372 Female, 266

^{*} Admitted with fever. † Appeared immediately; died fourth day. ‡ Some time in labour before admission.

Total number of children dead at birth-Male . · · 37, 7 of which were putrid. Female, 17, 1 was putrid. 22 54, 8 11 were putrid. Total number died-Male. Female, 23 22 22 60

Children born alive, 698; dead at birth, 54, 8 of which were putrid, thus leaving 46, or one in $16\frac{1}{3}$; died, 60; 1 in $11\frac{3}{6}$ %. Mothers recovered, 694; died, 58; or nearly 1 in 13.*

Delivery by the Forceps before the Os Uteri is Fully Dilated.

In speaking of this proceeding I consider it necessary in the first place to state that, although in such cases the os uteri was dilated only to the extent mentioned, it, nevertheless, must have been dilatable -i.e., capable of further expansion. Should it be rigid, the usual means for relaxing it must be adopted previous to attempting to operate. But before going further I must here caution the practitioner that this operation (as in any case where the forceps is used to aid delivery) is not without danger in unskilful hands, by whom it should never be attempted; but if performed by those who have thoroughly acquired that great delicacy of touch so essentially necessary in the obstetrician, and who have had sufficient experience in the use of the forceps—in their hands when properly and carefully employed, it is perfectly safe and its use justifiable (not in any manner injuring the soft parts), for it not only in a great measure secures the safety of the mother, but tends materially to the preservation of the life of the child. The former, by obviating the danger produced by prolonged pressure of the fœtal head on the maternal soft parts, and all its evil consequences, and the latter, by preventing interference with the placental circulation endangering the life of the child, particularly in cases of early rupture of the membranes.

From March 21st, 1869—when the first case occurred—till November 5th, 1875, out of the 752 cases delivered with the forceps, as already mentioned, there were 169 cases where delivery was thus effected.

For the purpose of giving a clear and precise idea of the amount of dilatation of the os uteri at the time of operation, it is assumed that four inches is the greatest diameter of expansion of the os, or

^{*} In four reliable tables of forceps statistics-taken from Drs. Hardy and M'Clintock's reports, Dr. C. Johnson's ward books, Drs. Shekleton and Sinclair's reports, and Dr. Denham's ward books-I find that out of 581 deliveries, there were 70 deaths; average, I in 913.

what is called "fully dilated"—*i.e.*, at the time the head is passing through it. This four inches is divided into five parts.

This division, we consider, gives a more accurate idea of the extent of expansion than the ordinary designation of the degrees—viz.,

sixpence, one shilling, half-a-crown, or crown-piece.

In order to exemplify the result of the practice, the following three Tables, A, B, C, showing the degrees of expansion of the os uteri at the time of operating, the cause of interference, the position of the fœtal head, whether above the brim, in the brim, or in the cavity of the pelvis, the result to the children and the same to the mothers, together with the cause of death in the fatal cases, will give a clear and, I trust, a satisfactory view of what I am anxious to explain and establish.*

By Table A it will be seen that there were 59 cases where the os uteri was two-fifths dilated, 44 being primiparæ and 15 pluriparæ.

Of the 44 primiparæ, the cause of interference was in 36 instances early rupture of the membranes; in 4, the head pressed on the expanded though undilated cervix, particularly the anterior lip, although the membranes were entire, the liquor amnii remaining above the head of the fœtus; in 1, prolapse of the funis (the child, a girl, lived); in 2, convulsions (children both male, and dead); in 1, disproportion.

Position of Head.—In 9 instances the head was above the brim at the time of the application of the forceps; in 14, it was in the brim;

and in 21, it was in the cavity.

Result to Children.—25 male children were born and 19 female. Of the 25 males, 21 were alive at birth, 1 of whom died on the seventh day of erysipelas, and 3 were still-born, 1 of which was putrid; in 1 the waters had escaped thirty hours; and 1 was a case of convulsions. Of the 19 female children, 17 lived and 2 were still-born, of which 1 was a case of convulsions, and 1 where the waters had escaped 36 hours.

Results to Mothers among Primipara.—38 mothers recovered and 6 died, of whom 2 were cases of convulsions, both brought to hospital

comatose, having had several fits before admission.

One was a case of gastro-enteritis, from which she was suffering for

a week before being admitted.

One was a case of sloughing, attributed to too frequent examination. One was a case of peritonitis; patient fretting; suspected seduction. One was a case of great distress of mind from seduction.

At the post-mortem examination of these 6 cases, in none was the

^{*} On looking back to my Clinical Report of 1875, in the Table No. 5, where "the forceps was used in the first stage of labour," page 18, a discrepancy exists with the present Report, which, after a careful perusal of the Tables, I find to be incorrect—viz., in the column of the degrees of dilatation of the os uteri, 56 is the total number mentioned where the os was \$\frac{2}{6}\$ths dilated, whereas it should be, as in the present Report, 59; 80 as the number where the os was \$\frac{2}{6}\$ths dilated should be 71; 33 where the os was \$\frac{4}{6}\$ths dilated should be 30; and the number of deaths, 10, should be 9.

os uteri found to be more fissured than is usually observed after first deliveries.

Of the 15 pluriparæ the cause of interference was in 6 instances from early rupture of the membranes; in 4, from pressure of the fœtal head on the cervix; in 1, from prolapse of the funis; in 1, from placenta prævia; in 2, from deformity (projection of the sacral promontory); in 1, from acute laryngitis, where tracheotomy had to be performed and labour induced.

Position of the Head in the Pelvis.—In 9 instances the head was

above the brim; in 3, in the brim; in 3, in the cavity.

Results to Children.—7 male children were born and 8 female. Of the 7 male, 3 lived and 4 were still-born, 1 of which was putrid. Of the still-born, 1 was a case of prolapse of the funis; 1 where the waters had escaped 63 hours, besides which there was projection of the sacral promontory; 1, a case of acute laryngitis in the seventh month, mentioned above. Of the 8 female children, 7 were alive at birth, 1 of whom died in 17 hours in a case of placenta prævia—7th month, 16th pregnancy.

Result to Mothers.—All recovered.

By Table B you will perceive that there were 71 cases where the os uteri was three-fifths dilated, 53 being primiparæ and 18 pluriparæ. In the 53 primiparæ, the cause of interference was—in 39 instances the membranes had ruptured and the waters escaped at the commencement of labour; in 10, the head pressed on the cervix, the membranes unbroken; in 1, malposition of the head; in 1, prolapse of the funis; in 1, convulsions; in 1, disproportion.

Position of the Head.—In 4 instances the head was above the brim at the time of operation; in 26, in the brim; in 23, in the cavity.

Results to Children of Primiparæ where the Os Uteri was three-fifths dilated.—27 male children were born and 26 female. Of the former, 23 were born alive and lived; 4 were still-born, 3 being in cases where the membranes had ruptured early; I where the head had pressed on the anterior lip. Of the 26 female children, 22 were born alive and lived, and 4 died, 2 of which were overlain; I child (9 lb. 4 oz.) died the fourth day in a case suffering from bronchitis before admission—early rupture of membranes; and I child (4 lb.) premature.

Result to Mothers.—51 recovered; 2 died—1, a case of gastritis, from which she was suffering for some time previous to her coming

in; 1, a case of uterine diphtheritis, died on the third day.*

^{*} Post-mortem examination—"Peritoneal sac contained some muddy semipurulent fluid; slight peritonitis; right ovary covered with lymph; both fimbriated extremities of the Fallopian tubes intensely congested; uterus well contracted; no metritis, but about four or five small patches of diphtheritic membrane at the cervical portion; os fissured slightly at both sides, but fissure not extending deep." This woman noted as having been delicate all through pregnancy, hard worked, badly fed, admitted anæmic, and extremely weak. Third morning found pulseless, and died shortly after.

TABLE NO. II.—Showing the Number of Cases in which Delivery was effected by the Forceps before the Os Uteri was Fully Dilated.

-				1										
Cause of Death	pu	Distress of Mind		+	н								-	-
		Uterine Diphtheria					-	H		11	1		-	-
		Peritonitis		+	-			-		11			-	-
ause		Sninguole		-	-		11			11	11		-	-
Ö	Siz	Gastro-Enteritis		-	F	-	н	Н		11	1		10	10
		swo	Convulsio	10	67					- 1			21	3
Result to Mother		Died		9	9		2	2		- 1	-		6	6
Res		pa	Кесочете	38	53		18	1		25	38		114	160
		Died	E	1 =	н		4	4		61	10		9	7
		3	M.	-	1		12	62		2	101		1 2 — — 16 48 59 71 52 8 2 60 44 3 6 114 9 3 1 1 6 1 2 12 15 19 27 19 7 4 18 14 2 1 46 — —	5
ldren		Lived	됴	17	24		5 22	27		200	7			58
o Chi	-	i 	Ä	3	24		23	31		16	23		09 81	78
Result to Children	ead	Born	뇬	8	64	DILATED.		-	šD.	1 8	2		4	9
Res	A	2	Ä.	24	7		4 4	9	DILATED,		6			15
	E	orai	<u>F</u>	61 68	2 27		26	32		- Cx	1 12			3 71
	E	-	₹ XAPO	25	32	S) colco	27	39	4S 4	60	27			86
of the	olied		In the Cavity	21	24	I WAS	23	29	I WAS	15	25			78
Position of the Head when For-	ceps applied	min	In the B	14	17	UTERI	26 IO	36	UTERI	∞ 4	01	TOTAL		63
Pos	Ce	эт	Above th	6	18	Os U	44	9	Os C	3	4	T	16 12	28
	3E:	Extreme Ner- vousness, Great Exhaustion		11	1	THE (18	2	THE	11			1 8	2
			Laryngi	1 -	-		TI			11				-
		έy	Deformi	0	63	WHERE	1 %	3	WHERE	=	н		9	9
e	u	ortio	Disprop	-	I	MI	нн	77			I		7 -	3
erenc	Sive	Placenta Prævia		=	н	B.			C.	11			н	-
Cause of Interference		Accidental Hæmorrhage		11	1	-	1	н		0	2		1 8	3
e of		Convulsions		8	7		-	I		н	2		4 I	10
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	lo	To noirisoqlaM basH		11	T		1 2	3		11			1 2	3
		Pressure on Anterior Lip		4 4	00		10	13		24	6		21 9	30
	es Sə	uptu	Early R	36	42		39	43		18	25		93	IIO
		Total		15	59		53	71		26	39		123	169
				Primiparæ Pluriparæ	Total		Primiparæ Pluriparæ	Total		Primiparæ Pluriparæ	Total		Primiparæ Pluriparæ	Total

In none of these cases at post-mortem examination was there seen any injury to the oscuteri beyond the ordinary fissuring that would take place in first labours.

Of the 18 pluripara, the cause of interference was—in 4 instances early rupture of the membranes; in 3, the anterior lip was pressed on by the head; in 2, malposition of the head; in 2, prolapse of the funis; in 1, accidental hæmorrhage; in 1, disproportion; in 3, deformity; in 1, extreme nervousness; in 1, great debility, a case of phthisis.

Position of the Head when the forceps were applied.—In 2 instances

it was above the brim; in 10, in the brim; in 6, in the cavity.

Results to Children.—12 male children were born and 6 female. Of the former, 10 were born alive, 2 of which died; 1 weighed 5 lb. 14 oz., premature, eighth month, died in 15 hours; 1 weighed 4 lb. 12 oz., seventh month, in the case of phthisis; 2 were dead born; 1, 9 lb. 3 oz., face presentation; 1, 6 lb. 6 oz., prolapse of funis. Of the six female, 5 lived; 1 was dead at birth, seven months, weighed 6 lb. 12 oz., in the case of acute laryngitis.

Result to Mothers.—All recovered.

By Table C, where the os uteri was four-fifths dilated, it will be seen that the forceps was had recourse to in 39 cases, 26 being primipare and 13 pluripare.

Of the 26 primipara, the cause of interference was in 18 cases early rupture of the membranes; in 7, the head pressed on the

cervix; in 1, convulsions—brought in comatose.

Position of the Head in the Pelvis.—In 3 instances it was above

the brim; in 8, in the brim; in 15, in the cavity.

Results to Children.—19 male and 7 female children were delivered. Of the 19 male, 18 were alive at birth and 1 dead—had been a long time in labour, under care outside; 16 lived and 2 died, in both of which the membranes had ruptured early—one 35 hours, and one 26 hours previously. Of the 7 female, all were born alive, but 5 lived and 2 died. Of the 2 who died, 1 was a case of convulsions, at seven months, died in 8 hours, the mother having had several fits before admission; 1 was where the head pressed on the cervix.

Results to Mothers.—25 recovered; I died—admitted perfectly comatose, having had four fits of eclampsia before being brought to

hospital

Of the 13 pluriparæ, the cause of interference was—in 7 instances early rupture of the membranes; in 2, pressure of the head on the cervix; in 1, convulsions, her second child; in 2, accidental hæmorrhage; in 1, projection of the sacral promontory.

Position of the Head in the pelvis at the time of the application of the forceps.—In I case it was above the brim; in 2 cases in the

brim; in 10 cases in the cavity.

Results to Children.—8 males and 5 females were born. Of the 8 males, 7 lived and 1 was putrid at birth. Of the 5 females, 2 lived

and 3 were dead born, 2 being cases of accidental hæmorrhage; 1 a case of early rupture of membranes.

Result to Mothers.—All recovered.

Thus the total number of primiparæ delivered was 123.

The cause of Interference being in 93 instances from early rupture of membranes; in 21, head pressing on cervix; in 1, malposition of head; in 2, prolapse of the funis; in 4, convulsions; in 2, disproportion.

Position of the Head in the Pelvis.—In 16 cases it was above the

brim; in 48, in the brim; in 59, in the cavity.

Results to Children.—71 male and 52 female children were born; of the 71 male children, 8 were dead at birth, 1 of which was putrid, 60 were alive at birth, 3 of whom died; of the 52 female children, 2 were dead at birth, 44 lived and 6 died.

Result to Mothers.—114 recovered, and 9 died—viz., 3, convulsions; 2, gastro-enteritis; 1, sloughing of vagina; 1, peritonitis; 1, uterine

diphtheritis; 1, distress of mind.

The total number of *pluriparæ* delivered was 46.

The cause of Interference was—in 17 cases, early rupture of the membranes; in 9, head pressing on the cervix; in 2, malposition of head; in 3, prolapse of the funis; in 1, convulsions; in 3, accidental hæmorrhage; in 1, placenta prævia; in 1, disproportion; in 6, deformity; in 1, acute laryngitis; in 2, extreme nervous delicacy.

Position of the Head in the Pelvis. - In 12 instances it was above

the brim; in 15, in the brim; in 19, in the cavity.

Results to Children.—27 male and 19 female children were delivered. Of the 27 male, 7 were dead at birth, 2 of which were putrid, 18 were alive at birth, 2 of whom died. Of the 19 female children, 4 were dead at birth, 14 were born alive, 1 of whom died.

Result to Mothers.—All recovered.

Thus of 169 deliveries, 160 mothers recovered and 9 died, or 1 in $18\frac{7}{9}$. Of 98 male children delivered, 78 were alive at birth, 15 were dead at birth, 3 of which were putrid, and 5 died. Of the 71 female children delivered, 58 were born alive, 6 were dead at birth,

and 7 died.

The instrument we at first employed was the straight form, which at the time was generally used in Dublin, both short and long, according as the head was low down or high in the pelvis; but on very many occasions, particularly in the latter instances, finding them fail, as they slipped from off the head when it was above the brim, or it was at all impacted, we eventually had recourse to Barnes's double-curved forceps, which we have ever since found most satisfactory, being equally easy of introduction, and when applied grasping the feetal head so firmly that we hardly ever fail to deliver with them.

In no instance did the patient sustain any injury of the uterus or vagina from the instrument, either by the passing of the blades or in the process of extraction; laceration of the perineum sometimes did occur, but not to any serious extent, nor was it attributable to the forceps, as from the precautions always taken in removing the blades, as soon as the head descended so low that the occiput was brought under the arch of the pubis, and the forehead to bulge the perineum, we avoided the occurrence of such an accident.

Chloroform was employed in 537 cases of forceps deliveries, in most of which it was pushed to full anæsthesia, and always with satisfactory results—the patients recovering sensibility in a few minutes after its withdrawal—and no unpleasant consequences occurring. We always took the precaution, previous to its administration, of giving a full dose of ergot of rye, in order to guard against post-partum hæmorrhage.

The length of time occupied in the delivery of the head varied from seven or ten minutes to, in one case, three-quarters of an

hour.*

There were two cases of sloughing—both primiparæ. The first where there was early rupture of the membranes, the head pressing on the cervix. The usual remedies to relax the os and excite uterine action proving unavailing, delivery of a boy, living, was assisted by the forceps; she died suddenly third day after. Post-mortem examination showed complete separation of the cervix from the body of the uterus. This was the case which first induced me to adopt this practice.

The second was a case of sloughing of the vagina, caused by the too frequent examination of the patient; twenty-six hours in labour; the os two-fifths dilated when delivery was effected of a boy, weighing 8 lb. 6 oz., lived; mother died on thirteenth day. Postmortem examination—os not more fissured than after ordinary

labour.

There were six cases of sloughing of the perineum, which occurred to patients in bad health, attributed to distress of mind, being victims of seduction; three recovered.

There was no instance where we were obliged to alter the position

of the blades, after having been applied.

The reasons we considered it necessary to employ the forceps were, as will be seen by the Table, when convulsions set in, cases of accidental or unavoidable hæmorrhage, prolapse of the funis, extreme weakness, or in cases where there was no advance although uterine action was frequent, and threatening injury to the soft parts, par-

^{*} B. B., aged thirty-nine or forty, ninth pregnancy; waters had escaped 23 hours before admission; when examined, os found \$\frac{2}{3}\$ths dilated; head arrested above brim, owing to an exostosis of left sacro-iliac synchondrosis. After trying stimulating enema without producing any effect, she was given a dose of ergot, put under chloroform, and the forceps were applied with great difficulty, and, after a considerable amount of traction and time, a female child was delivered—left frontal bone being greatly depressed for a space of $3\frac{1}{2} \times 1\frac{3}{4}$ inches. It was some time before the child could be resuscitated, the depression decreased, and both mother and child went out well on twelfth day.

ticularly where the waters had escaped at the commencement of labour, or the life of the child was endangered. We did not allow the labour to be prolonged so far as to produce any of the symptoms indicative of vaginal inflammation, considering it safer to interfere before such should appear.

In the after-treatment of almost every case we took the precaution of having the vagina syringed regularly, twice or three times a

day, with an antiseptic solution.

There never was any serious injury inflicted on the head of the child by the blades of the forceps; sometimes a slight abrasion on the head occurred, and occasionally we had facial paralysis, but in

all cases it passed off in a few days.

From the foregoing statistics, I think it is amply proved that the practice I have recommended is not alone safe and justifiable, but also a great preservative of the lives of both mothers and children.

Meeting, Saturday, December 7th, 1878.

EDWARD B. SINCLAIR, M.D., President, in the Chair.

The discussion on Dr. Johnston's "Clinical Report on the Use of the Forceps during Seven Years, from 1868 to 1875," took

place.

Dr. ATTHILL said:—The practice of the whole kingdom is greatly influenced by the teaching of the Dublin School of Midwifery. When, therefore, a gentleman occupying the position Dr. Johnston did, as being so recently the head of a great clinical midwifery hospital, pronounced a very decided opinion, his practice

should be freely and fully discussed in this Society.

In the first instance he wished to say that his (Dr. Atthill's) practice in the Rotunda Hospital did not vary in principle, at least very materially, from Dr. Johnston's. Dr. Johnston used the forceps once in about every ten cases; he once in about every fifteen. Johnston applied them frequently before the os was fully dilated; he also used the forceps before the os was fully dilated, but avoided doing so as far as his power lay. It was unnecessary for him to say a word in defence of the forceps. There was hardly a practitioner who objected to its use; and the hesitation of any who did so arose from that timidity which is begotten by ignorance. The objections of such were fully answered by Dr. Johnston in the commencement of his paper. But though he agreed with what was there said in defence of the forceps, he was not sure that the class of cases which Dr. Johnston described in the paragraph alluded to, were those which formed the mass of the cases upon which he founded his paper. None of them reached the extreme conditions he described, and comparatively few would have done so. Nevertheless, that the great majority of them were properly delivered with

the forceps he (Dr. Atthill) had not the slightest doubt. Still there was the risk of running into extremes. There was the danger of encouraging practitioners throughout the country to a too free use of the forceps.

The main feature of the paper was the advocacy of the use of the forceps before the os uteri was fully dilated. That practice was not altogether new. In certain cases it would be monstrous to leave a woman undelivered because the os had not fully dilated; and even excepting cases in which hæmorrhage, or convulsions, or prolapse of funis occurred, there were many others-in which, after twelve or sixteen hours' labour, the patient becomes exhausted, the pulse rises, and matters evidently become serious, and in which there was no physical difficulty in applying the forceps, or any reason to suppose that the os would not yield—which should be delivered at once. On the other hand, he had seen cases in which serious injury resulted from the too early use of the forceps. He had seen the lips of the os uteri at the very labia during extractions with the forceps. The head was, of course, in the pelvis; the cervix was thick and swollen, and was compressed between the arch of the pubis, anteriorly, and the fœtal head. He had seen severe contusions produced by that operation, followed by sloughing, which resulted in death. He had also seen ulcerations of the cervix, but not to an excessive extent. Besides these objections there was another namely, that great force was sometimes necessary to deliver with the forceps, from the resistance of the cervix. His powers in such cases had been taxed to the uttermost. Again, members of the Society would remember a case which occurred about a year ago in England, in which a junior practitioner was put on his trial for manslaughter, in consequence of death following from the injudicious use of the forceps. In that case the blades had passed through the cervix, which was spread out over the feetal head. The os had been only half dilated. Therefore the forceps should not be applied before full dilatation of the os, without the exercise of great care and judgment.

Dr. Johnston, in his Report of the hospital for the year 1874, at page 69, gave a Table of 42 cases in which he applied the forceps before the os was fully dilated. In No. 39 of those cases the patient had been only six hours in labour-in another eight. In four other cases the labour was of but twelve hours' duration. In all these the cause asigned for the use of the forceps before the os was dilated was early rupture of the membranes. He did not mean to say that those cases should not have been delivered with the forceps, but that Table

was calculated to mislead an inexperienced practitioner.

Next, what bearing had the use of the forceps on infant mortality? It was stated that a considerable number of children were saved by the use of the forceps, but he believed that the impressions on that subject were exaggerated. His own experience was that the use of the forceps before the os was fully dilated did not save a large number of children. They might be born alive in the sense of breathing for

a few moments, but he was satisfied that in many cases they did not survive. The number of children that died after the early use of the forceps he believed to be considerable. That was proved from Dr. Johnston's own Tables. It was stated there that out of 316 males born alive 27 died before leaving the hospital, and that of females 14 died out of 214. He did not exactly know how to go about showing what the relative mortality was, but he would compare Dr. Johnston's Tables with those of his predecessors. In Johnston and Sinclair's Midwifery difficult and tedious labours were classed separately. Tedious labours were those exceeding 24 hours—difficult, those in which it was thought necessary to use instruments of any kind. Out of 13,800 patients dealt with by Johnston and Sinclair as occurring in Dr. Shekleton's mastership, there were 247 cases of tedious, and 200 of difficult labour—making 447 in all. These two classes

should correspond with Dr. Johnston's forceps cases.

Dr. Johnston dealt with only 7800 patients, and his proportion of both tedious and difficult cases was 752; therefore, while Dr. Johnston used the forceps once in about every 10 cases, Dr. Shekleton met with only one case of difficult or tedious labour in about every 31 cases. If the forceps save life to the extent claimed for them, we should expect that the infantile mortality in Dr. Johnston's practice should be very much less, but we find that Dr. Shekleton's mortality was 6.9 per cent. of all his cases, against Dr. Johnston's 6.1 per cent.; but this only refers to still-born children; and I affirm that if we add those children who died within a few days of birth, there would be no gain in favour of Dr. Johnston's practice. Again, during the mastership of Dr. Collins, the mortality of infants was 6.5 per cent. out of 15,800 cases. Dr. Shekleton, out of 13,748 cases, had 6.9 still-born. Dr. Collins hardly ever used the forceps. Dr. Shekleton used it freely. Dr. Johnston, out of 7830 cases, lost 6.1. Evidently the saving of children by the use of the forceps was not very great. He (Dr. Atthill) thought the advantage to the mothers was greater, consisting in relief from protracted suffering, still he could not but think that the advantage of the forceps was overrated, and that there was a danger at present of its being too freely used.

Dr. Macan said the question had resolved itself into this—In what cases, before full dilatation of the os, was it right to use the forceps? In what cases was the danger of using the instrument less than the danger the woman would run from protracted labour, and the complications that might thence arise? The danger of bleeding to death might be greater than any that was connected with the use of the forceps before full dilatation. He had saved a woman from bleeding to death by the use of the forceps. There were some practitioners who, although they might refuse to apply a forceps before full dilatation, would not have the slightest hesitation in passing in the hand and turning the child. The use of the forceps took about half an hour, that of the hand about ten minutes. The whole danger depended on the time given to the cervix to distend. They were told

to take the greatest care not to include the cervix between the head and the forceps. On the other hand, if the os were fully dilated, the cervix could not be included. Again, it was wrong to make the mere size of the os the criterion of danger. It was sometimes more dangerous to apply a forceps with a dilatation of two inches than in other cases where the dilatation was only a quarter of an inch. There was a difference, in using the instrument, between the cases of first labours and of women who had borne many children. In the former the cervix was pressed as thin as blotting-paper, and, though the os might be only the size of the tip of the finger, the mere sweeping of the finger round it would dilate it an inch and a half. In the cases of pluriparæ the forefinger could be passed into the cervix a month before labour. If the cervix round the os was extremely thin, the conditions for the use of the forceps were more satisfactory than when the cervix was still very thick, although the os might be somewhat larger. On the whole, if the use of the forceps saved suffering, without increasing mortality, great service was done to the cause of obstetrics.

Dr. More Madden said Dr. Johnston had more than once spoken of this practice as a novel one, yet it was brought forward 125 years ago by Smellie. It afterwards came into general vogue, and practitioners delivered their patients as quickly as they could with the forceps. Then, as usual, a revulsion of feeling ensued, and others began to oppose the practice and to deprecate the digging out of a child untimely from its mother's womb. Dr. Johnston had referred to a diagram in illustration of his Paper. It represented the degrees of dilatation which the os was supposed to have allowed before the forceps was to be introduced. But how could any practitioner discriminate these dilatations of two, three, or four-fifths, while a woman was in labour? A less educated finger than Dr. Johnston's would certainly be misled. As to the statistics based on those divisions, he found it exceedingly hard to follow them. They were based on what had no existence in Nature-namely, those divisions of the womb into two, three, and four-fifths. The only Table he could clearly understand was that in which Dr. Johnston gave statistics as to the number of primiparæ delivered by the application of the forceps before full dilatation of the mouth of the womb. The general impression on his mind was, that the practice had not such extraordinary advantages as were claimed for it; and he thought they should hesitate before they allowed to go forth, on the authority of the Dublin School of Midwifery, that it was a good or safe practice to substitute operative skill and manual dexterity for patience and time in dealing with parturition. In the great majority of the instances in the Table to which he had just referred, labour would probably have terminated favourably without any interference of the kind at all. The forceps might be used with success by practitioners as skilful and accomplished as Dr. Johnston, but his skill would not be possessed by all who should read his Paper and agree with his practice. Some would be tempted

to say to themselves, why should they spend eight or ten hours by a bedside, when all they had to do was to put up their hand, dilate the mouth of the womb, drag out the child, and go home confident that all would be well? The result would be that the forceps would be used indiscriminately, and discredit would be brought upon its legitimate and proper use. They should be careful how far they allowed

manual dexterity to be substituted for the efforts of Nature.

Dr. Kidd said that the Paper divided itself into two sections. The first deals with the use of the forceps in the entire number of cases delivered in the hospital during Dr. Johnston's mastership, the second with the use of this instrument during the first stage of labour. total number of forceps cases mentioned in the first section is 752, out of a total of 7862 deliveries—being at the rate of 9.56 per cent. Of these 752 forceps cases, some were undoubtedly cases of complex labour the exact number we have not the data before us to determine. on the other hand, there were cases which would come rightly under the head of tedious and difficult labour which were delivered by craniotomy (26) and version (7). But it may, perhaps, be allowed to let these complex cases and craniotomy and version cases balance one another, and take the 752 cases as representing those in which assistance was given in consequence of delay or difficulty in the labour actually occurring or anticipated. If we examine the former reports of the same hospital, it appears that Dr. Clarke, out of 10,199 labours, met with only 183 tedious and difficult ones—being at the rate of 1'79 per cent.; Dr. Collins, 210 out of 15,850—being 1'32 per cent.; and Dr. Charles Johnson, 259 out of 6634—being 3'90 per cent.; and in each of these reports are included the tedious cases delivered unassisted, as well as those delivered with the forceps or vectis and by craniotomy. Now, if in the same hospital, and, as may be assumed, with the same class of patients, under the masterships of three men such as Clarke, Collins, and C. Johnson, the total number of tedious and difficult cases observed was so low-or, taking the average of the whole three put together, 652 cases out of 32,683, or 1'99 per cent.—and under the management of a succeeding master 752 out of 7862 require the use of the forceps, it follows that either the latter was (to use Dr. Johnson's own words) meddlesome midwifery, or the former was negligent midwifery. To determine this point, the author of the Paper refers to his statistics as proving that his practice was the best for both mothers and children. 752 mothers, he says, 58 died, or nearly 1 in 13; whereas in four reliable Tables of forceps delivery he finds that out of 531 deliveries there were 70 deaths—average 1 in 9\frac{1}{2}.

This comparison, however, is open to the objection that the things compared are not parallel. If one man deliver a number of patients with the forceps who, if left alone, would have delivered themselves unaided, and another use the instrument only after the natural efforts have failed in consequence, it may be, of some mechanical obstruction to the passage of the child through the pelvis,

it is obvious that the results of the two modes of practice cannot be compared. The mortality in the forceps cases of the latter may be much higher than that of the former, and yet the rate of mortality out of the entire number of women may be lower, proving the latter to be the better practice. The only real way to decide the relative merits of the two modes of practice is to compare the results obtained among the entire number of patients treated on each plan; and the accurately preserved records of the same hospital afford very fortunately the means of doing this also. At page 6 of the Report of Dr. Shekleton's mastership, by Drs. Sinclair and George Johnston, a Table is given showing the number of patients delivered in the hospital under each master from its foundation till the expiration of Dr. C. Johnson's mastership, showing the mortality of both mothers and children under each. An abstract of this Table will serve as a standard of comparison, and for convenience the percentages are here worked out:—

Date	Master's Names	Total No. of Women delivered	Women Died	Per cent.	Children Dead-born	Per cent. of Total. Born
1757-1759 1760-1766 1767-1773 1774-1780 1781-1786 1787-1793 1794-1800 1801-1807 1808-1814 1815-1821 1822-1826 1827-1833 1834-1840	Dr. Moss Sir Fielding Ould Dr. Collum Dr. Jebb Dr. Jos. Clarke . Dr. Evory . Dr. Kelly Dr. Hopkins . Dr. Labatt . Dr. Pentland . Dr. Collins . Dr. Kennedy . Dr. C. Johnson . Total	915 3,800 4,724 5,903 7,088 10,787 11,357 14,790 18,727 21,867 12,885 16,391 13,167 13,699	14 49 65 63 54 124 86 163 217 309 198 158 224 179	1.53 1.28 1.37 1.06 0.76 1.14 0.75 1.10 1.15 1.41 1.53 0.96 1.70 1.30	46 197 258 209 411 580 600 974 1,063 1,535 827 1,017 651 863	4'9 5'11 5'37 4'47 5'69 5'28 6'17 6'46 5'57 6'92 6'33 6'11 4'88 6'14

From this Table it appears that, from the opening of the hospital till 1847, when Dr. C. Johnson's mastership terminated, 156,100 women were delivered within its walls, and of these 1903 died, being a mortality of the entire number of 1'21 per cent., and this may be fairly taken as a correct statement of the results of midwifery of the old school; and under the new mode of practice, out of a total of 7862 deliveries, 179 deaths occurred, being a percentage of 2'27, being nearly double the former rate. Disturbing causes may have arisen during the latter period to render this comparison unjust, such as a great preponderance of primiparous parents, or an excessive prevalence of puerperal fever, but of this there is no evidence in the published Reports, and certainly, as it stands, it must be taken as

proving that the very frequent use of the forceps is not so favourable to the mothers as the more moderate use of that instrument.

The second part of the Paper relates to the use of the forceps before the os uteri was fully dilated. The value of that practice must also be judged by results, but, unfortunately, it is difficult to obtain statistics to enable us to do so. He found that Dr. Johnston used the forceps in 169 cases in the first stage, out of 7862 labours, being a percentage of 2.14. Now Dr. Collins's percentage of tedious and difficult tabours was only 1:32. Of the 169 cases, there were 5 of convulsions, 3 of accidental hæmorrhage, 1 of placenta prævia, 3 of disproportion, 6 of deformity, and I of laryngitis, making a total of 19 cases to be put out of the calculation. He did not suppose there was a man in the room who would hesitate in any of those cases to apply the forceps if he thought he could deliver the patient before the os was fully dilated. The exclusion of the 19 cases reduced the percentage to 1.90. Out of the whole 169 cases, there were 9 deaths, or 5'3 per cent. Excluding the 5 cases of convulsions, 3 of whom died, it appears that 6, out of 164 delivered with the forceps during the first stage of labour, died, being at the rate of 3.6 per cent. The Report does not distinguish the deaths in the cases of hæmorrhage or disproportion. The statistics as to delay in the first stage of labour are, as has been mentioned, very scanty, but Dr. Churchill has recorded 143 cases in which the first stage was prolonged to periods varying from 16 to 176 hours, and in not one of these did the mother die. Moreover, in Drs. Johnston and Sinclair's Report of the hospital, under Dr. Shekleton's management, 91 cases of delay in the first stage are recorded, in all of which the mothers were delivered naturally, and without ill effects. Here is a total of 234 cases, of which we have accurate records, and not one death occurred among them, and yet in Dr. Johnston's cases 6 out of 164 died.

Of the children delivered by the forceps in the first stage, 21 were still-born, and excluding 3 that were putrid, the deaths of 18, or 10.6 per cent., may be assumed to have occurred in the birth. In Dr. Churchill's cases 10 were still-born, one of which was putrid, leaving

9 to be charged to the delay, or 6.2 per cent.

It would appear, therefore, from these facts that it is the better and safer mode of practice for both mothers and children when delay occurs in the first stage, unless there be special circumstances demanding it, to avoid the use of instruments, and instead to rely on milder means for conducting the labour to a safe termination.

Dr. M'CLINTOCK said that of the two salient points of practical importance in Dr. Johnston's Paper—viz., (1) the employment of the forceps before the full dilatation of the os uteri; and (2) the more frequent use of the forceps in all cases of labour—he would confine his observations to the former. He (Dr. M'Clintock) thought that to Dr. Johnston indisputably belonged the credit of having clearly laid down and taught the practice in question, be it good or bad, as he (Dr. M'Clintock) was not aware of any obstetric authority who

previously had recommended the use of the instrument under these special circumstances. Dr. Johnston laid it down that in all the cases where the practice was resorted to the os uteri was in a dilatable condition, and, no doubt, this was a very important condition for safety and success. In all the cases reported in Dr. Johnston's Paper, chloroform was also freely administered, and this tended powerfully to promote the dilatation of the os. It was a remedy in which he (Dr. M'Clintock) placed great confidence for effecting the same object. But was this operation practicable and safe? Any one might well imagine, à priori, that the great danger to be apprehended was laceration of the os uteri; for, in fifteen or twenty minutes, the forceps accomplished what Nature would take several hours to effect. According to Dr. Johnston's Tables 44 cases were delivered with the forceps when the os was only two-fifths dilated, and of these 6 died. Post-mortem examination of these 6 cases showed that in none was the os more fissured than it usually is after a first confinement. In primiparæ, as we all know, it was quite common for the os to tear without any evil result. Again, Dr. Johnston employed the forceps 46 times in pluriparæ, where the os was only imperfectly dilated, and not one of these patients died. The mortality was greatest in the cases in which the os was least In the first group (in which the os was two-fifths dilated) the mortality was I in 9, in the next class (of three-fifths dilatation) the mortality was only I in 30, and in the class next to that it was I The average mortality in all the cases was only I in $18\frac{7}{9}$. From these facts he (Dr. M'Clintock) concluded that the use of the forceps was a practicable and safe operation, and that it was, therefore, a justifiable operation in circumstances where any other alternative would seriously compromise the safety of mother or child. The dilating force acting on the os when the forceps was used was from within, and so far followed the course of Nature. The cases to which this early resort to the forceps was most likely to be applicable were-1, convulsions; 2, hæmorrhage; 3, prolapse of the funis; 4, certain cases of tumours obstructing delivery; and 5, certain cases of pelvic distension. Whilst he (Dr. M'Clintock) thus spoke in favour of the operation, he wished at the same time to express his strong conviction that the forceps should not be so employed except under extreme circumstances; nor should it then be used except by practised hands, as, under these exceptional circumstances, its employment required more than ordinary caution and skill. It is true the results of Dr. Johnston's cases were most successful, but we must remember that in all his cases the instrument was used by most experienced hands.

The President said that at so advanced an hour of the evening his observations must necessarily be very brief; indeed, a great deal of what he had intended to have said had been taken out of his mouth by Dr. M'Clintock and Dr. Kidd. He thoroughly agreed with Dr. M'Clintock that to Dr. Johnston belonged the credit of

having originated this practice. His friend and former colleague, Dr. Johnston, always entertained a great regard for the forceps, and this regard has now ripened into an ardent love. Dr. Johnston was also the first to change the practice with regard to the forceps in the Dublin Lying-in Hospital, when he (Dr. Johnston) was senior-assistant to the late Dr. Shekleton, former chief medical-officer of that institution—the rule was never to use the instrument in a primiparous case. He, the President, knew Dr. Shekleton was accustomed to say, "I would rather cut off my right hand than put on the forceps in a first case!" One day, however, when Dr. Shekleton was absent, his friend, Dr. Johnston, successfully operated upon a primipara, and proved that the instrument could be used in such cases with perfect safety, as he has now done with respect to its use in cases where the os uteri has but slightly dilated, and which he, the President, believed to be a great acquisition to the practice of obstetric surgery. Dr. Kidd had dealt ably with the statistics illustrating the question under debate. To the President it appeared that the mortality to the mothers in cases of delay during the first stage, and both first and second stages, when left to Nature, was about the same, if not absolutely the same, as when the forceps was used in Dr. Johnston's easy forceps applications, so that Dr. Johnston's practice does not increase it. Therefore, he (the President) did not think it was justifiable to use them as frequently as Dr. Johnston had done in such cases, he not having shown that his practice lessened the maternal mortality to any extent whatever. He (the President) quite agreed with Dr. M'Clintock that the dilatation of the os from within was safer, easier, and more rapid than from without (as evidenced in footling and version cases), and the former effect was produced by the forceps in these cases. He, however, was certain that a number of cases in which Dr. Johnston had used the forceps for tardy dilatation of the os uteri would, if left to themselves, have done very well, and that therefore a great number of his operations were unnecessary. In the course, now, of a long and large practice, including 6000 cases in his maternity, he (the President) never found it necessary to use the forceps where the os uteri was so little dilated as in Dr. Johnston's cases; and he hoped not long hence to give his statistics to the Society, which will demonstrate that his maternal mortality has been extremely slight.

Dr. Johnston, in reply, said:—Mr. President, as I have only one or two observations to make, which will not occupy more than a few minutes, I do not ask for an adjournment—particularly as Dr. M'Clintock's and your remarks on the different salient points of my Paper have, to a great extent, answered most of the objections that have been raised. In the first instance, however, I cannot avoid taking notice of the statement Dr. Atthill has just now made—viz., "That he used the forceps twenty years ago, before the os was fully dilated." Now, as this is the first time I ever heard of his having done so, I cannot help expressing my surprise that he should have allowed such a length of time to elapse before mentioning it, more

particularly as he presided on three occasions when I read my Reports—viz., for the years 1872-3-4—and although he each time made his comments on the practice, still he never alluded to his having performed it. As to his observations with regard to "the dragging down or prolapse of the cervix," which, he states, "takes place so frequently during the operation," my reply is, that such a calamity never occurred in my practice, nor have I experienced "any difficulty," nor was there ever any "great force required" (as he has expressed) "in the dilating of the os." On the contrary, it is remarkable how very easily it relaxes. As Dr. M'Clintock has observed, "the dilating force being from the interior, the natural direction, the os yields far more readily than when the expansion is attempted from without."

Then Dr. Kidd, in his observations with regard to the comparative mortality in mothers and children, has adduced very large statistics from the Dublin Lying-in Hospital records, comparing the death-rate under the Masters who very rarely employed the forceps with those who used it frequently. Finding that the rate of mortality was less under the former than under the latter, he infers that "it must be taken as proving that the very frequent use of the forceps is not so favourable to the mothers as the more moderate use of that

instrument."

Now, the conclusion I respectfully, but firmly maintain, is altogether a non sequitur. The experience of all lying-in hospitals demonstrably proves that the most influential agent in the production of the mortality among the women is puerperal fever. When it is absent the mortality is small, and vice versâ; and unless Dr. Kidd is prepared to prove that the use of the forceps strongly favours the development of puerperal fever, his line of argument is fallacious. I maintain, therefore, that the practice I have set forth is a favourable one, as is proved by the following statistics:—

n. Ort
24
- 5
. 1
$4\frac{1}{2}$
$6\frac{1}{3}$
4
8*
46

And let us, when viewing the mortality of the mothers in the 169 cases, delivered before the os was fully dilated, take into consideration the circumstances under which they occurred, viz.:—

3 being cases of convulsions, brought into hospital comatose.

2 being cases of gastritis, from which they were suffering previous to admission.

^{*} The reason for Dr. Collins's Reports not being quoted is that they do not con tain any Table showing the result of forceps cases.

I being a case of extreme delicacy, all through pregnancy, and in which, at post-mortem examination, "the uterus was found well contracted. No metritis."

2 being cases of innupta, with extreme fretting.

T being a case of sloughing of vagina from too frequent examination. Now, as not one of these cases could be attributed to the use of the forceps, I therefore consider I am fully warranted in the conclusion with which I have terminated my Paper—viz., "That it is amply proved that the practice is not alone safe, but is also a great preservative of the lives of both mothers and children."

Obstetric Summary.

Statistics of Cæsarian Section.

In two articles contributed to the American Fournal of Medical Sciences for April and July, 1878, Dr. R. P. Harris has collected the particulars of eighty-nine American cases of Cæsarian Section, which give a far more favourable mortality than those which have been performed in Britain, although in a considerable proportion of them the operation was only performed as a last resort, when the patient was already in an extremely exhausted state. In the eightynine cases, thirty-eight women were saved, and forty-four children were delivered alive, of whom thirty-eight were still living after some The fact that rather more than half the children were lost shows the large proportion of cases in which the operation was only performed after long protracted labour. Of the eighty-nine women, fifty-six were operated upon in a more or less exhausted state; three were either moribund, or closely approaching that condition; five were affected with convulsions; and only twenty were in a favourable condition. Eleven of the eighty-nine measured no more than four feet one inch in height. The causes of death of the children were, in most cases, long protraction of labour, or destruction by previous embryotomy. In nineteen earlier operations all of the children but one were delivered alive.

In estimating the mortality to the mothers which may be expected under tolerably favourable circumstances, the author selects the cases belonging to cities and important towns, where, as a general rule, they would be supposed to have had the best advantages of treatment. He finds them to number thirty-two, with a saving of twenty women and sixteen children, or a mortality of 57.5 per cent. This result appears the more favourable, when it is considered that by this method of exclusion, nine only out of seventeen early operations are counted, and three out of the five deaths which occurred in the seventeen are included. It was certainly not in the large cities that the most favourable cases were undertaken, for eight out of seventeen

early Cæsarian sections were made in country places, many of them very remote from the centres of civilisation. By another mode of calculation, the author selects seventeen reported cases, which were undertaken with the great advantage of an early resort to the knife, excluding all that had been in labour more than twenty-four hours. With this advantage, and without any very marked superiority of surgical skill, except in a few instances, he finds a saving of life in 70 per cent. of the women, and 80 per cent. of the children. these results are contrasted those obtained in Great Britain and Ireland, according to the statistics collected by Dr. Radford, and an extension of the record made by the author. He takes the first 100 cases, since the few which are over are scarcely any more encouraging, In the 100 cases only sixteen women were saved, though fiftyseven children were removed alive. Of forty-six cases in which the pelvis was contracted from malacosteon, but five were saved, and of twenty-one, the result of rickets, but one was saved. Twenty-four women were operated on within the first twenty-four hours after the commencement of labour, but only seven were saved. Of the sixteen cases that resulted favourably, five were deformed from malacosteon, one from fracture of pelvis, one from rickets, four had cancer, two exostosis, and one anchylosis of hip-joint. The author considers this fatality unaccountable, since the proportion of early operations was about 24 per cent., nearly the same as that in the United States, there being only a fractional difference in favour of the latter. thinks that it may be due in part to the greater proportion of malacosteon and cancer among the British cases, but cannot fully account for it except by supposing that much of the want of success in the Cæsarian operations in Great Britain depends upon the beer-drinking habits of the peasantry. In support of this view, he quotes the safety with which the Chinese, in their own country, undergo the severest operations of surgery, connecting this with their freedom from intemperance in the use of alcoholic stimuli.

In looking over the records of old operations in the United States, the author finds it certain that their relative mortality has decidedly increased in the last twenty years over what it was prior to that time. In the earlier period, fully one-third of the cases were delivered on the first day of labour; but in the last twenty years timely operations have been much more rarely performed, the proportion being about one in eight or nine. He thinks that American surgeons have unaccountably retrograded in this respect, and lost by delay what possibly they have gained in improved methods of operation and treatment. He is also inclined to think that the use of anæsthesia

has been rather a disadvantage than a gain.

The author compares the mortality of 37.5 per cent. in cases of Cæsarian section belonging to cities and important towns with the statistics of craniotomy in pelves with a conjugate diameter of two and a half inches or less, collected by Dr. Parry for the Article in the American fournal of Obstetrics, in which he maintained that, in

skilful hands, craniotomy has, in such cases, no advantage in the record of recovery over Cæsarian section, whilst the sequelæ of the first are far more to be dreaded. The tabular record amounted to 70 cases, with a fatal result in 26 women, or $37\frac{1}{7}$ per cent., a result almost exactly balancing the ratio of $37^{\circ}5$ per cent., and much less favourable than the record of Cæsarian section performed in the first twenty-four hours of labour. The cases of craniotomy, with scarcely an exception, were under the care of obstetricians of well-known reputation, residing in cities or large towns, among them being such names as Ramsbottom, Hicks, Greenhalgh, Barnes, Dubois, Radford, C. D.

Meigs, and Fordyce Barker.

The author concludes that obstetricians are now too extreme in their dread of Cæsarian section, and that if they were a little more afraid of the results of cephalotripsy in extremely narrow pelves, it would be better for some of the women, who might escape death or serious sequelæ by a timely use of the knife. He considers that leparo-elytrotomy requires much more time, anatomical knowledge, and surgical skill than Cæsarian section, and that it is therefore not well adapted for general practice. He admits, however, that, so far as experience has gone as yet, it appears to be much safer after exhaustion from long labour than Cæsarian section, and that it is therefore likely to prove a valuable substitute in large cities, where skill can be commanded, and where the disposition to delay appears to be so common on the part of midwives and accoucheurs attending cases of deformed pelvis. The experience of Philadelphia has been a remarkable one in cases of abdominal delivery, and would seem in favour of the old operation. All the four Cæsarian cases fell into the hands of educated accoucheurs; all were affected with deformity of the pelvis; all were operated on before the membranes were ruptured; and all four children were still living. Two women were lost, but neither from acute peritonitis. Two women were operated on by laparotomy after rupture of the uterus, and both were saved. In New York State and City, on the other hand, there have been eleven deaths in thirteen operations. Of the two saved, one operated on herself, and the other operation was performed in good season. In the last forty years every operation was fatal; all (11) were cases of delay but two, one of which died in the operation, and the other was the subject of a large uterine fibroid.

The author is inclined to think that the plan of placing sutures in the uterus is on the whole advantageous, though experience is as yet too limited to determine the point positively. He has no doubt as to the better safety of the suture in cases of atony or hæmorrhage at the time of the operation. In the last eleven years there have been sixteen cases of Cæsarian section in the United States, and of these ten were dressed with the uterine suture, and eight were thus treated out of the last ten operations. Of all the materials used, pure silver-wire has the best record of success, and next to it silk or

thread.

Gynacic Summary.

Total Extirpation by Abdominal Section of the Cancerous Uterus.

The operation for extirpation of the cancerous uterus by the method of Freund has now been performed in a considerable number of cases. The mode of procedure was first described by Freund in the Sammlung Klinisches Vorträge, No, 133, for April, 1878, and some improvements in its details are mentioned in the Centralblatt für Gynakologie, June, 1878; and in a communication made by him at the meeting of the German Gynæcological Society at Cassel, in September, 1878. Operations are also described by Dr. Fränkel, assistant to Dr. Freund (Berliner Klin. Wochenschrift, 1878, No. 31), and by Dr. Crédé (Centralblatt für Chirurgie, No. 32).

The method of operation, according to the latest improvements, is

as follows:--

The patient is placed with the pelvis higher than the shoulders; the carbolic spray is used, but is not allowed to enter the abdominal The vagina and cavity of the uterus are previously disinfected by a ten per cent. solution of carbolic acid, and an incision is made in the linea alba, as for ovariotomy. Dr. Freund now extends the cutaneous incision down into the mons veneris, and, if the recti muscles are tense, divides partially or completely the tendons of these muscles, in order to obtain more space, but the peritoneum is not divided down to the symphysis. The intestines are drawn up out of the pelvis, and held wrapped in a soft linen cloth soaked in a warm solution of carbolic acid (two per cent.), until the operation is completed. If the body of the uterus is healthy, a strong ligature is passed through it, whereby to draw it upwards; but if diseased, it is seized by fenestrated forceps, the blades of which hold it firmly without lacerating it. The broad ligament on each side is then secured by ligatures in three loops. In order to avoid transfixing those portions of the broad ligament where large veins exist, the upper loop is passed through the substance of the Fallopian tube above, and through that of the ovarian ligament below. The middle loop transfixes the ovarian ligament above and the round ligament The passing of the lowermost loop is the most difficult part of the operation. An empty needle, immovably mounted on a handle, is first passed from the vagina into the peritoneal cavity in front of the broad ligament, and anterior to the uterine artery, the exact position of which is made out by bimanual examination. needle is then threaded, withdrawn into the vagina, and again passed into the pouch of Douglas behind the broad ligament, and the thread so drawn upward into the abdomen. Finally, the loop is completed by transfixing the broad ligament, the ligature being passed through the substance of the round ligament. In his earlier operations, Freund found a difficulty in properly constricting the tissues by the lowest loop in consequence of their elasticity, and the result was apt to be a persistence of hæmorrhage from the uterine artery after

excision of the uterus, in spite of the lowest ligature. To avoid this, he now endeavours to include as little vaginal tissue as possible in the loop. The two punctures in each lateral vaginal cul-de-sac are made as close together as possible, and the needles are introduced in

a strongly divergent direction.

After the ligatures are placed, the upper and posterior limits of the bladder having been defined by the catheter, the peritoneum between the two is divided by the knife. The anterior surface of the uterus is then separated from the bladder by the fingers or handle of the knife, the fundus uteri being meanwhile drawn by an assistant upwards or backwards as required, by means of the transfixing ligature or As soon as the anterior vaginal cul-de-sac appears as a reddish fold at the bottom of the wound between uterus and bladder, it is perforated from the vagina by a guarded knife, and the opening enlarged to both sides. One or two fingers are then passed from above through the wound into the os uteri, and the cervix is gradually drawn upwards through the wound, until the posterior vaginal cul-desac is fully exposed, and the position of the ligatures seen. incision can then be carried round the cervix, so as to sever the uterus completely without risk of dividing the lowest loop of ligature, or injuring the ureters.

The uterus is thus removed through the abdominal wound. If, however, there is any open cancerous surface on the cervix likely to contaminate the peritoneum, either the cervix should be amputated previously, or all ragged tissue scraped away, and the wound touched with the cautery or strong carbolic acid. The pelvis is afterwards washed out with carbolic acid.

After the uterus is detached, all the ligatures, which are left long, are carried down through the aperture into the vagina, and strong traction is made upon the uppermost ligatures, to which small rods

have previously been attached to distinguish them.

In this way an inversion of the borders of the wound is produced, so that the ligatured stump of the broad ligament on each side presents in the vagina, and the uninjured portions of the anterior and posterior layers of pelvic peritoneum fall together in a transverse fold. The two layers are then united at this level by sutures, so as to shut off completely the peritoneal cavity. In his later operations Freund has inserted into the peritoneum some of the loops destined to form this suture before excising the uterus. A plug soaked in carbolised oil (ten per cent.) is then placed in the vagina, by which canal the ligatures also are brought out, and are generally detached by about the fourteenth day. Besides closing the peritoneal cavity, the inversion into the aperture of the broad ligament has the advantage of supplying, to some extent, the loss of intervening tissue between bladder and rectum.

In estimating the results of the operation so far, it is of interest to recall the three operations published in 1828, and performed by Dr. Blundell, who extirpated the whole uterus through the vagina. Though in all three cases the disease had extended to the vaginal vault, so that they would hardly now be considered suitable for the operation, although he had the disadvantage of operating without anæsthetics, and though one patient died almost immediately from hæmorrhage and shock, yet one of the three survived the operation, and was in good health five months later. Freund now reports five deaths in ten operations, one from peritonitis due to perforation of the sigmoid flexure affected by the malignant disease; one from supposed intussusception on the twelfth day in a case in which no autopsy could be procured, one from collapse in a patient who had granular kidney and fatty heart, two from septic peritonitis. None of the cases which survived had yet shown any sign of recurrence of the disease except one, in which there was a small and suspicious-looking

hard spot in the right vaginal cul-de-sac. Schroeder has operated nearly according to Freund's method in three cases, one of which recovered without a symptom; Martin in three cases, all of which proved fatal, one from septicæmia, the second from collapse; in the third infiltrated retro-peritoneal glands Olshausen has operated twice. The first proved successful, although the bladder or the ureter was injured, and urine oozed from the vagina until six days after the operation, after which it ceased entirely. The disease, however, recurred in five months. The second case died from secondary hæmorrhage, and at the autopsy a cancerous kidney was found. Baumgaertner has operated once, but in a case unsuitable for the operation, as funnel-shaped excision of the cervix had been performed, and the disease had soon returned. At the operation the right broad ligament was found so much infiltrated with cancer that it proved impossible to avert the bleeding by means of ligatures applied after Freund's method. Several artery forceps were left attached, but, in spite of drainage and irrigation with salicylic solution, the patient died on the fourth day, probably from septicæmia. Fränkel reports one case (Berliner Klin. Wochenschrift, 1878, No. 31) which proved successful, although the carcinoma had already extended to the upper part of the vagina, and the parametrium and the retractor uteri on the right side were infiltrated with carcinomatous nodules. The inguinal glands were swollen, but were not regarded as carcinomatous. Some of the carcinomatous portions of the vagina could not be entirely extirpated during the operation. tied, and removed on the thirty seventh day by cauterization. Crédé reports a fatal case (Centralblatt für Chirurgie, No. 32) carcinoma had spread over the whole vagina. Both ovaries also proved to be diseased, and were therefore removed. The peritoneum was not stitched together, but the edges of the vaginal wound were united by small forceps, which remained in the vagina. The patient seemed to be doing well at first, but suddenly collapsed, and died on the second day. At the autopsy, several of the glands in the pelvis were found to be diseased. Mr. Alexander, of Liverpool, also reports a fatal case. The patient was thirty-eight years old, showed

no cachexia, and the symptoms dated about five months. The uterus was movable, and the disease was believed to be confined to it. The right Fallopian tube, however, was found to be affected by the disease up to the ovary. The upper loop of ligature on the right side was therefore placed outside the ovary. After removal of the uterus severe symptoms of collapse appeared, although only about four ounces of blood were lost. The ligatures were therefore drawn into the vagina, and the abdominal walls brought together as rapidly as possible. The patient revived for a time, but died about an hour and a half after the operation, as the author believes, from shock, no

further hæmorrhage having taken place.

Thus, out of the twenty-two cases here mentioned, there were eight recoveries, while several of the fatal cases were obviously unfavourable from the first, the disease having manifestly extended beyond the uterus. Not all of the twenty-two cases, however, were carried out strictly according to Freund's method, and in that author's own hands the mortality so far is 50 per cent. only, a result which fully justifies further trial of the operation in such a disease as cancer of the uterus. It is the practice of Freund to remove the ovaries as well as the uterus, if the menopause has not been reached. He recommends that the steps of the operation should be previously practised upon the dead subject. The method of operating is still more suitable for carcinoma or sarcoma of the body of the uterus than for that of the cervix. It may also obviously be extended to the case of fibroid tumours, which it has hitherto been generally considered possible to extirpate only when a sufficient length of cervix is left free from the growth to serve as a pedicle.

BOOKS, PAMPHLETS, AND PAPERS RECEIVED.

"On Regressive Paralysis." By William H. Barlow, M.D. Man-

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"The Indications for Hystero-Trachelorraphy, or the Operation for Laceration of the Cervix Uteri." By Paul F. Mundé. New York: 1879.

"Placenta Prævia." By G. M. B. Maughs, M.D. St. Louis: 1879. Communications received from Dr. Sloan, Dr. Edis, Dr. Wiglesworth, Dr. Buchanan, Dr. Braxton Hicks, Dr. J. Williams, Mr. Lawson Tait, Dr. Coley, and Dr. Godson.

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GENERAL INDEX.

A BDOMINAL bandage, new form of, by Mr. Southon, 718

Abdominal tumours, cases illustrating the diagnosis of, by Dr. A. W. Edis, 65

Abortion, case of, at three and a half months, in which the placenta was probably retained, by Dr. D. Young,

American Gynæcological Society, trans-

actions of, review, 365 Amnion, diagnosis of dropsy of, by Dr.

Kind, 595 Atthill, Dr. Lombe, on the treatment of post-partum hæmorrhage by the injection of hot water into the uterus, 126; specimen of an ovarian cyst, 329; report of the Rotunda Hospital, 648

Aveling, Dr. J. H., influence of posture on women, 202; review, 485; treatment of chronic inversion of the uterus, 238; the curves of midwifery forceps, their origin and use, 238; regulator for Paquelin's cautery, 571; the spaying of women, 617

BARNES, Dr. Fancourt, vulcanite tubes for the injection of the uterus,

Barnes, Dr. Robert, specimen of effusion of blood into the peritoneal cavity, 170; "A Clinical History of the Medical and Surgical Diseases of Women," review, 563; tumour of rectum, 784

Batty's operation, by Dr. Engelmann,

Bed, model of irrigation, by Dr. Playfair, 317

Beigel, Dr., pathology of cauliflower excrescences of the cervix uteri, 59

Bell, Dr. C., placenta prævia, or unavoidable hæmorrhage, 491, 509

Berry, Mr. W., puerperal convulsions,

Bradley, Dr. M. M., post-partum hæmorrhage, with notes of three cases successfully treated by compression of the

abdominal aorta, 287

Braithwaite, Dr. J., two cases of inversion of the uterus following delivery, 84; on digital dilatation of the os uteri during labour, 790

"Breast, Contribution to the Physiology and Pathology of, and its Lymphatic Glands," by Dr. C. Creighton, review,

Brewer, Mr. A. H., labour complicated

by an ovarian cyst, 320

British Medical Association, address on the section of obstetric medicine, at the annual meeting of, by Dr. M'Clintock, 370; annual meeting, 459

Broad-ligament, death from a rupture of a cyst of, by Dr. W. H. Parish, 58

Bruce, Dr., a preparation of supernumerary fingers, 53 Brunton, Dr. John, specimen of double

cephalhæmatoma, 571

Brydon, Dr. J., hand behind head presentation, 237

Buchanan, Dr. G., case of menstruating ulcer, 780

Buist, Dr. J. B., note of a case of retroversion of the gravid uterus, 518; specimen of uterus, 714

Burn, Mr. S. S., case of serious perimetritis, 169

Byrne, Dr. J. A., case of pregnancy complicated with large uterine fibroid, IIO

ÆSARIAN section, a case of, by Dr. Braxton Hicks, 173; statistics of, by Dr. Harris, 815

Cancer, the combined application of the electrolytic and electro-caustic effect of the battery in the treatment of, by Dr. Noeggerath, 61

Cancerous polypi, specimen of, removed during pregnancy, by Dr. Galabin, 91 Cappie, Dr., specimen of umbilical cord,

581

Carmichael, Dr. James, Dr. Thomas's dull wire curette, 640

Cervix, the histological characters of erosions of the, and of commencing cancer, by Drs. Ruge and Veit, 603

Cervix uteri, complete torsion of, in a

cow, by Prof. Walley, 576 Cervix uteri, pathology of cauliflower excrescences of, by Dr. Beigel, 59; occlusion of os, and accidentally pro-

duced, by Mr. Wiglesworth, 622; specimen of medullary sarcoma of, by Dr. Galabin, 633; of epithelioma of, by Prof. Simpson, 639

Cephalhæmatoma, specimen of double, by Dr. J. Brunton, 571

Cephalotribe or cranioclast, discussion on, at the German Gynæcological Society of Munich, 132

Cephalotripsy, case of, by Dr. Keiller,

Chambers, Mr. T., report on specimen of uterine tumour by Dr. Galabin and Mr. Herman, 27

Champneys, Dr., specimen of retroflexed

uterus, 237

Chanier, M., case of cutaneous desquamation in a living fœtus, 748

Charles, Dr. N., failure of milk diet in the albuminuria of pregnancy, 195 Chorion, specimen of hydatiginous de-

generation of, by Prof. Simpson, 180 Churchill, the late Dr., by Dr. M'Clin-

tock, 327 Cleveland, Dr. C., case of tubo-uterine

pregnancy, 266

Conjoint examination, the method of, in gynæcological diagnosis, by Prof.

Hegar, 337

Cory, Dr., specimen of a fœtus with lacerated scalp, 91; specimen of the uterine mucous membrane in menstruation, 172; the pathology of membra-nous dysmenorrhœa, 175

Craig, Dr., specimen of strangulated in-

testine, 713
Creighton, Dr. C., "Contributions to the Physiology and Pathology of the Breast and its Lymphatic Glands,"

review, 305

Croom, Dr. J. H., specimens of Prof. Simon's urethral dilators, 53; specimen of a fœtus which died twelve days post-partum from imperforate anus, 54; on the value of rapid dilatation of the urethra and neck of the bladder as an aid to uterine diagnosis, 78, 513; on the retention of the urine in the female, 181; specimen of pregnant uterus,

639; notes on a case of placenta

prævia, 714 Cullingworth, Mr. C. J., cases illustra-ting the viability of extremely small premature children, &c., 163 Curettes and curetting, by Dr. Keiller,

Curette, the dull wire, in gynæcological practice, by Dr. P. Mundé, 244; Dr. Thomas's, by Dr. Carmichael, 640

ARBY, Mr., address to the Dublin Obstetrical Society, 110; removal of fibrous polypi uteri, 118

Davies-Colley, Mr., rheumatoid inflammation of the joints in women, 158

Dermoid cyst, case of, successfully removed by ovariotomy, by Dr. Koeberlé, 62; case of, of the ovary, by Dr. Torres, 677

Diarrhœa, notes of the common forms of, in children, by Dr. Sansom, 537 Dolan, Mr. T. M., a contribution to our

facts on puerperal septicæmia, 465 Dublin Obstetrical Society, meetings of, 110, 260, 327, 451, 523, 595, 648, 720, 793

Dumontpallier, Dr., case of hæmatocele consecutive to extra-uterine fœtation,

Duncan, Dr. J. Matthews, "Traction by the Lower Jaw in Head-last Cases, 30; the revolutions of the fœtal head in passing through a brim contracted only in the conjugate diameter, 240; on a shear produced on the fœtal head before its entrance into the brim of the pelvis, 697

FDINBURGH Medico-Chirurgical Society, meetings of, 375, 436 Edinburgh Obstetrical Society, meetings

of, 37, 101, 180, 244, 321, 491, 575, 638, 714
Edis, Dr. A. W., cases illustrating the

diagnosis of abdominal tumours, 65; Tarnier's obstetric forceps, 314; specimen of double ovarian cysts, with fibroid tumour of the uterus, 315; specimen of placentæ of twins, 633; laparo-elytrotomy, 675; on intra-uterine medication and sterility, 775

Egan, Mr. C. J., uterine hæmorrhage, 482

Engelmann, Dr., Batty's operation, 534

FINGERS, preparation of numerary, by Dr. Bruce, 53 Fœtal extirpation by abdominal section

of the cancerous uterus, 817

Fœtal-head, the asymmetry of, by Dr. Wiltshire, 36; the revolutions of, in passing through a brim contracted only in the conjugate diameter, by Dr. J. M. Duncan, 240; specimen of, by Dr. Smyly, 328; on a shear produced in the, before its entrance into the brim of the pelvis, by Dr. J. M. Duncan, 697

Fœtus, specimen of, with lacerated scalp, by Dr. Cory, 91; case of cutaneous disquamation in a living, by M. Chanier,

748

Fœtation, extra-uterine, case of, by M. Weiss, 56; by Dr. Priestly, 783; specimen of, by Dr. Hayes, 235; by Dr. Macdonnel, 515; gastrotomy for, by Dr. G. Thomas, 531

Fitzpatrick, Dr., cystic degeneration of ovum, 317; specimen of gravid uterus

at full term, 785

Forceps, the curves of midwifery, their origin and uses, by Dr. Aveling, 238; specimen of Tarnier's obstetric, by Dr. Edis, 314; ovum, by Dr. H. Smith, for introduction of laminaria tents, by Dr. H. Smith, 317; delivery by, by Mr. Herman, 486; modification of Dr. Duncan's, 509; new midwifery, by Dr. Kidd, 720

Forceps, delivery in hospital practice, by

Dr. G. Johnston, 793. Fothergill, Dr. M., ovarian dyspepsia as a cause of phthisis, 199

GALABIN, Dr., a modified form of Dr. Peaslee's metrotome, 27; specimen of cancerous polypi removed during pregnancy, 91; fœtal mortality in obstetric practice, 229; specimen of myxoma of ovary, 236; pessary for prolapse of the uterus, 316; on prolapsus uteri, and its casual relation to hypertrophic elongation of the cervix, 349; rupture of the vagina during labour, 571; specimen of medullary sarcoma of cervix uteri, 633; the uterine mucous membrane immediately before healthy menstruation, 782

Gastro-elytrotomy as an alternative for embryotomy, by Dr. G. Thomas, 529 Gervis, Dr., specimen of cystic degenera-

tion of the fœtal kidneys, 92

Godson, Dr., case of a double monster, 317; specimen of abnormal placenta, 633; remarks on two cases of vesicular mole, 701

Graafian follicles, the development and maturation of, during pregnancy, by Dr. Slavjansky, 606

Green, Dr., a case of puerperal convul-

sions, 100

Grenser, Dr., note on retroflexion of the uterus in unmarried and nulliparous women, 135

Griffith, Mr. G. de G., notes on a case of hydramnios, 221; post-partum hæmorrhage and modes of treatment, &c., 704

Gynæcic summaries, 57, 134, 197, 267, 335, 534, 603, 677, 748, 817

EMORRHAGE, treatment of postpartum by the injection of hot water into the uterus, by Dr. L. Atthill, 126; post-partum, with notes of three cases successfully treated by compression of the abdominal aorta, by Dr. M. M. Bradley, 287; uterine, by Mr. Egan, 482; notes of three cases of accidental, with remarks, by Dr. Underhill, 641; post-partum, and modes of treatment not generally known for controlling and arresting it, by Mr. G. de G. Griffith, 704

Halton, Mr. R. J., on some forms of severe mental disturbance occurring in connection with certain non-puerperal

uterine derangements, 209

Hamilton, Dr. G., on the proper management of tedious labours, and particularly on the use of the forceps in these, 137; note as to the mortality in child-bed statistics, 303; case illustrating some points in the management of tedious labours, 474, 559

Harris, Dr. R. P., statistics of Cæsarian

section, 815

Hayes, Dr., a new tube for the injection of the uterus with disinfectants, 28; specimen of extra-uterine fœtation, 235; specimen of uterus and appendages,

"Head last cases, traction by the lower jaw in," by Dr. Matthew Duncan, 30 Heart, specimen of abnormal vessels and of a child, by Dr. D. Wilson, 101

Hegar, Prof., the method of conjoint examination in gynæcological diagnosis,

Henry, Dr. L., on the amputation of the vaginal portion of the uterus, 411

Herman, Mr. G. E., cases occurring in the obstetric practice of the London Hospital, II; specimen of a unicorn uterus, 29; specimen of double uterus and

vagina, 236; delivery by forceps, 486; the treatment of pregnancy complicated with cancerous disease of the genital canal, 487

Hewitt, Dr. Graily, "The Mechanical System of Uterine Pathology," review,

483

Hickinbotham, Dr., case of rupture of the uterus, 98; new form of ovum

forceps, 782

Hicks, Dr. Braxton, case of Cæsarian section, 173; three cases of very large polypi of uterus, in which the usual modes of diagnosis were unattainable, removed successfully, 609

Hime, Dr., laparo-elytrotomy, 673

Hæmatocele, a case of, consecutive to extra-uterine fœtation, by Dr. Dumont-pallier, 396; specimen of pelvic, by Prof. Simpson, 640

Hospital practice, reports of, London Hospital, 11; University College, 363; Glasgow Maternity Hospital, 430

Hydatid tumours of the pelvis, case of, simulating retro-uterine hæmatocele, by Dr. F. Villard, 134

Hydramnios, notes on a case of, by Mr.

G. de G Griffith, 221

Hydrocephalus, the risks and treatment of intra-uterine, as a complication of labour, by Dr. Macdonald, 582

Hymen, the condition of the, and its remains by cohabitation, childbearing, and lying-in, by Prof. Schröder, 324; the treatment of imperforate, by Dr. Puech, 335

MPERFORATE anus, specimen of a fœtus which died twelve days postpartum, from, by Dr. H. Croom, 54; preparation of the lower part of the bowel and bladder of a male child born with, by Prof. Simpson, 321

Intestine, specimen of strangulated, by Dr. Craig, 713; protrusion of, in a child who lived some hours after birth,

by Dr. Pinnock, 431

Intra-uterine medication, note on, and sterility, by Dr. Playfair, 693; by Dr. Edis, 775; by Dr. Wiglesworth, 777; contribution to subject of, by Dr. Sloan, 770

Intra-uterine injections, apparatus for, by Dr. Potter, 784

JOHNSTON, Dr. George, clinical report of 752 cases of forceps delivery in hospital practice, 793

Johnston, Dr. Joseph, on puerperal remittent, or septicæmic fever, 726 K EILLER, Dr., case of cephalotripsy, 194; curvettes and curvetting, 516 Kidd, Dr. G. H., diagnosis of dropsy of the amnion, 595; new midwifery forceps, 720; specimen of large uterine tumour, 720

Kidneys, specimen of cystic degeneration of the fœtal, by Dr. Gervis, 92

Koeberlé, M., on ovariotomy, 270

ABIUM, specimen of tumour of, by

Dr. Macan, 523

Labour, a case of protracted, in which the forceps was typically indicated, by Dr. G. Roper, 35; on the proper management of tedious, and particularly on the use of the forceps in these, by Dr. G. Hamilton, 137; on digital dilatation of the os in, by Dr. Stephenson, 273; by Dr. Braithwaite, 790; by Dr. Trenholme, 479; on the mechanism of, by Dr. Stephenson, 401; case illustrating some points in the management of tedious, by Dr. Hamilton, 474, 559

Laparo-elytrotomy, by Dr. Hime, 693;

Dr. Edis, 675

Leroy, M., case of successful transfusion,

_ 57

London Obstetrical Society, meetings of, 27, 91, 170, 235, 315, 486, 570, 633, 711, 782

MACAN, Dr. A. V., milk fever, 451; specimen of tumour of the labium,

Macdonald, Dr. Angus, on the essential pathology of puerperal eclampsia, 375, 436; modification of Dr. Duncan's forceps, 509; specimen of extra-uterine foetation, 575; the risks and treatment of intra-uterine hydrocephalus as a complication of labour, 582

Mason, Dr., specimen of multilocular

ovarian tumour, 260

Mayr, Dr., the etiology of face presenta-

tions, 398

M'Clintock, Dr., specimen of fibrous polypi uteri, 118; resolution of deep regret at the decease of Dr. W. Stokes, 260; successful cases of transfusion, 261, 330; the late Dr. Churchill, 327; address at the opening of the section on obstetric medicine at the annual meeting of the British Medical Association, 370

Membranous dysmenorrhæa, the patho-

logy of, by Dr. Cory, 175

Menstruating ulcer, case of, by Dr Buchanan, 780

Menstruation, specimen of the uterine mucous membrane in, by Dr. Cory, 172

Mental disturbance, on some forms of severe, occurring in connection with certain non-puerperal uterine derangements, by Mr. R. J. Halton, 209
"Midwifery, A Treatise on the Science

and Practice of," by Dr. Playfair, re-

view, 708

Midwifery practice, antiseptic precautions in, by Dr. F. W. Newcombe, 17

Milk diet, failure of, in the albuminuria of pregnancy, by Dr. N. Charles, 195 Milk fever, by Dr. Macan, 451

Monster, specimen of dicephalous, by Dr. Wiltshire, 235; case of double, by

Dr. Godson, 317

Mortality, fœtal, in obstetric practice, by Dr. Galabin, 229; note as to the, in childbed statistics, by Dr. G. Hamilton, 303; in childbed, by Dr. M'Clin-

tock, 370 Mowat, Dr. G., absence of uterus, 491 Mundé, Dr. P. J., the dull wire curette in gynæcological practice, 244

NEW-BORN children, the blue eyes

of, by Dr. Wiltshire, 36 Newcombe, Dr. F. W., antiseptic precautions in midwifery practice, 17

Noeggerath, Dr., the combined application of the electrolytic and electrocaustic effect of the battery in the treatment of cancer, 61

BSTETRICAL Society of London, annual address by Dr. West, 681; report of annual meeting, 711

Obstetric binder, an abdominal shield for improving, by Mr. Vacher, 628 Obstetric summaries, 56, 132, 195, 396, 529, 600, 673, 748, 815

Ovarian cysts, specimen of double, with fibroid tumour of the uterus, by Dr. Edis, 315; labour complicated by, by Mr. A. H. Brewer, 320; specimen of, by Dr. L. Atthill, 329

Ovarian dyspepsia as a cause of phthisis,

by Dr. M. Fothergill, 199

Ovarian gestation, by Dr. Puech, 600 Ovarian tumour, specimen of, by Dr. Mason, 260; case of, complicated by cardiac and renal disease—ovariotomy —death, by Mr. J. K. Thornton, 281

Ovaries, specimen of, removed for dysmenorrhæa, by Prof. Simpson, 638; hernia of the, by Dr. Puech, 748

Ovariotomy, the antiseptic method in, by Dr. C. Schröder, 267, Kæberlé, on, 270

Ovary, specimen of myxoma of, by Dr. Galabin, 236

Ovum, cystic degeneration of, by Dr. Fitzpatrick, 317

Ovum forceps, new form of, by Dr. Hickinbotham, 752

PARISH, Dr. W. H., death from rupture of a cyst of the broad ligament, 58

Paquelin's cautery, regulator for, by Dr.

Aveling, 571

Perimitritis, a case of serous, by Mr. S.

S. Burn, 169

Pinnock, Dr. R. D., a case occurring in the out-door practice of the Glasgow Maternity Hospital, 430

Placenta prævia, twins with, by Dr. Williams, 363; or unavoidable hæmorrhage, by Dr. Bell, 491, 509; notes of a case of, by Dr. Croom, 714

Placenta, specimen of, by Dr. P. Ritchie, 180; specimen of a poly-cotyledonary, by Prof. Simpson, 575; by Dr. Young, 712; specimen of, of twins, by Dr. Edis, 633; specimen of abnormal, by Dr. Godson, 633

Playfair, D., model of irrigation bed, 317; note on intra-uterine medication and sterility, 693; "A Treatise on the Science and Practice of Midwifery, review, 708; address to the London Obstetrical Society, 785

Polypus, structure of a channelled, of the cervix, by Dr. C. E. Underhill, 321; specimen of a channelled, by Prof. Simpson, 509; specimen of, by Prof. Simpson, 581

Poole, Dr., specimen of fracture of the feetal skull, 172

"Posture, Influence of, on Women," by Dr. Aveling, 201; review, 485

Potter, Dr., case of pregnancy, complicated by malignant growths in the vagina and rectum, 174; apparatus for

intra-uterine injections, 784

Pregnancy case of, complicated with large uterine fibroid, by Dr. J. A. Byrne, 110; case of, complicated by malignant growths in the vagina and rectum, by Dr. Potter, 174; case of tubo-uterine, by Dr. C. Cleveland, 266; the treatment of, complicated with cancerous disease of the genital canal, by Mr. Herman, 487

Premature children, cases illustrating the

viability of extremely small, by Mr.

C. J Cullingworth, 163

Presentations, specimen of distortion of child in face, by Dr. Roper, 237; hand behind head, by Dr. Brydon, 237; etiology of face, by Dr. Mayr, 308; arm over head, with prolapse of funis, by Dr. Young, 640

Priestley, Dr., case of extra-uterine feetation, 782

Prolapsus uteri, its causal relation to hypertrophic elongation of the cervix,

by Dr. Galabin, 349

Puech, Dr., the treatment of imperforate hymen, 335; ovarian gestation, 600; hernia of the ovarus, 748 Puerperal convulsions, by Mr. W. Berry,

I; a case of, by Dr. J. G. Swayne,

73; by Dr. Greene, 100

Puerperal eclampsia, on the essential pathology of, by Dr. Macdonald, 375, 436; on the hypodermic injection of chloral in, by Dr. Purefoy, 524; treatment of, by venesection, by Dr. Quantin, 675

Puerperal remittent or septicæmic fever,

by Dr. Johnston, 726

Puerperal septicæmia, a contribution to our facts on, by Mr. Dolan, 465

Purefoy, Dr. R. D., on the hypodermic injection of chloral in puerperal eclamp-

Pyæmic arthritis, specimen of, as the result of congenital syphilis, by Dr.

Wiltshire, 93

UANTIN, Dr., treatment of eclampsia by venesection, 675

RECTUM, specimen of a mucous polypus of, by Dr. P. Ritchie, 53;

tumour of, by Dr. Barnes, 784 Reviews, Ziemssen's "Cyclopædia of the Practice of Medicine," vol. xxi. 87, vol. xiv. 311; "Contributions to the Physiology and Pathology of the Breast and its Lymphatic Glands," by Dr. C. Creighton, 305; "Transactions of the American Gynæcological Society," vol. ii. 365; "A Handbook of Uterine Therapeutics and of Diseases of Women," by Dr. Tilt, 432; "The Mechanical System of Uterine Pathology," by Dr. G. Hewitt, 483; "The Influence of Posture on Women in Gynecic and Obstetric Practice," by Dr. Aveling, 485; "A Clinical History of the Medical and Surgical

Diseases of Women," by Dr. Barnes, 563; "A Treatise on the Science and Practice of Midwifery," by Dr. Play-

Rheumatoid inflammation of the joints in women, by Mr. Davies-Colley,

Ritchie, Dr. P., specimen of a mucous polypus of the rectum, 53; of pla-

centa, 180; of funis, 712

Roper, Dr. G., a case of protracted labour in which the use of the forceps was typically indicated, 35; specimen of distortion of child in face, presentation, 237; some clinical remarks on a certain class of cases of anteflexion of the uterus with certain correlated conditions, 574,

Rotunda Hospital, report of the, by Dr.

Atthill, 648

Ruge and Veit, Drs., the histological characters of erosions of the cervix and of commencing cancer, 603

SANSOM, Dr. A. E., notes on the common forms of diarrhœa in children, 537

Schröder, Dr. C., the antiseptic method in ovariotomy, 267, 751; the condition of the hymen and its remains by cohabitation, child-bearing, and lying-in, 324 Simon, Prof. G., notes of a successful

operation on a very large vesico-vaginal fistula, occurring in a child eight years

of age, 104

Simpson, Prof., address to Edinburgh Obstetrical Society, 37; notes of a case of sudden prolapse of the gravid uterus, 54; specimen of hydatiginous degeneration of the chorion, 180; preparation of the lower part of the bowel and bladder of a male child born with imperforate anus, 321; specimen of channelled polypus, 509; of a poly-cotyledonary placenta, 575; of a knot on the umbilical cord formed during pregnancy, 577; of fibroma vagina, 579; of polypus uteri, 581; of ovaries, 638; of epithelioma of the cervix uteri, 639; of sarcomatous tumour from the vagina, 139; of pelvic hæmatocele, 640

Skinner, Dr., a case of rupture of the

uterus, 99

Skull, specimen of fracture of the foetal,

by Dr. Poole, 172

Slavjansky, Dr., the development and maturation of Graafian follicles during pregnancy, 606

Sloan, Dr. S., contribution to the subject of intra-uterine medication, 770

Smith, Dr. Heywood, ovum forceps, 317; forceps for introduction of laminaria tents, 318 Smyly, Dr. W. J., specimen of head of

fœtus, 328

Southon, Mr., new form of abdominal

bandage, 718

Stephenson, Dr. W., on digital dilatation of the os in labour, 273; on the mechanism of labour, 401

Sterility, note on intra-uterine medication

and, by Dr. Playfair, 693

Stokes, Dr. W., resolution of deep regret at the decease of, by Dr. M'Clintock, 260

Swanzy, Dr. H. R., the influence of the uterus in eye disease, 118

Swayne, Dr. J. G., case of puerperal con-

vulsions, 73

Syphilis, on the present state of knowledge as to the inheritance of, by Prof. A. Weil, 753

TAIT, Mr. Lawson, two cases of repair of the female bladder and urethra, 95; note on the treatment of chronic inversion of the uterus, 178, 555

Thomas, Dr. Gaillard, gastro-elytrotomy as an alternative for embryotomy, 529; gastrotomy for extra-uterine fœtation, 531; intravenous injection of milk as a substitute for transfusion of blood, 532.

Thornton, Mr. J. K., case of ovarian tumour complicated by cardiac and renal disease—ovariotomy—death, 281 Tilt, Dr. E. J., "A Handbook of Uterine Therapeutics and of Diseases of Women," review, 432

Torres, Dr. Gomes, case of dermoid cyst

of the ovary, 677

Transfusion, a successful case of, by M. Leroy, 57; successful cases of, by Dr. M'Clintock, 261, 330; intra-venous injection of milk as a substitute for transfusion of blood, by Dr. G. Thomas,

Trenholme, Dr. G. W., on digital dilata-

tion of the os in labour, 479

Tumour, spontaneous expulsion of a large fibroid, by Dr. Ygovin, 197; specimen of large uterine, by Dr. Kidd, 720

MBILICAL cord, knot on, formed during pregnancy, by Prof. Simpson, 577; specimen of, by Dr. Cappie, 581; by Dr. Ritchie, 712

Underhill, Dr. C. E., structure of a channelled polypus of the cervix, 321; notes of three cases of accidental hæmorrhage, with remarks, 641

Urethral dilators, specimens of Prof. Simon's, by Dr. H. Croom, 53

Urine, on retention of, in the female, by

Dr. J. H. Croom, 181

Uterine diagnosis, the value of rapid dilatation of the urethra and neck of the bladder as an aid to, by Dr. J. H. Croom, 78, 513

Uterine mucous membrane, the, immediately before healthy menstruation.

&c., by Dr. Galabin, 782

"Uterine Pathology, the Mechanical System of," by Dr. Hewitt, review, 483 "Uterine Therapeutics, a Handbook of,

and Diseases of Women," by Dr. Tilt, review, 432

Uterine tumour, report by Dr. Galabin and Mr. Herman on Mr. T. Cham-

bers's specimen of, 27 Uterus, specimen of a unicorn, by Mr. Herman, 29; notes of a case of sudden prolapse of the gravid, by Prof. Simpson, 54; two cases of inversion of, following delivery, by Dr. J. Braithwaite, 84; specimen of carcinoma of the body of, by Dr. Squire, 93; specimen of spontaneous rupture of, by Dr. J. Williams, 93; cases of rupture of, by Dr. Hickinbotham, 98; by Dr. Skinner, 99; specimen of fibrous polypi of, by Dr. M'Clintock and Mr. Darby, 118; the influence of, in eye disease, by Dr. Swanzy, 118; retroflexion of, in unmarried and multiparous women, by Dr. Grenser, 135; note on the treatment of chronic inversion of, by Mr. L. Tait, 178, 555; specimen of a double, and vagina, by Mr. Herman, 236; specimen of retroflexed, by Dr. Champneys, 237; treatment of chronic inversion of, by Dr. Aveling, 238; pessary for prolapse of, by Dr. Galabin, 314; on some of the changes in, resulting from gestation, and on their value in the diagnosis of parity, by Dr. Williams, 318; on the amputation of the vaginal portion of, by Dr. Henry, 411; absence of, by Mr. Mowat, 491; note of a case of retroversion of the gravid, by Dr. Buist, 518; specimen of, and appendages, by Dr. Harper, 571; some clinical remarks on a certain class of cases of anteflexion of the, with certain correlated conditions, by Dr. Roper, 574, 634; three cases of polypi of, by Dr. B. Hicks, 609; specimen of pregnant, from patient who died from uræmic convulsions, by Dr. Croom, 639; by Dr. Buist, 714; specimen of gravid, at full term, by Dr. Fitzpatrick,

VACHER, Mr. F., on an abdominal shield for improving the obstetric binder, 629

Vagina, notes on occlusion of, by Dr. J. Young, 101; rupture of the, during labour, by Dr. Galabin, 571; fibroma of, by Prof. Simpson, 579; specimen of sarcomatous tumour of, by Prof. Simpson, 639

Vesico-vaginal fistulæ, two cases of repair of, by Mr. L. Tait, 95; notes of a successful operation on a very large fistula, occurring in a child eight years of age,

by Prof. G. Simon, 104

Vesicular mole, remarks on two cases of,

by Dr. Godson, 701

Villard, Dr. F., case of hydatid tumour of the pelvis, simulating retro-uterine hæmatocele, 134

WALLEY, Prof., complete torsion of Weil, Prof. A., on the present state of

knowledge as to the inheritance of syphilis, 753

Weiss, M., case of extra-uterine foetation,

West, Dr. Charles, annual address to the

Obstetrical Society of London, 681 Wiglesworth, Mr. A., case of occlusion of os and cervix uteri accidentally produced, 622; intra-uterine medication,

Williams, Dr. J., specimen of spontaneous rupture of uterus, 93; on some of the changes in the uterus resulting from gestation, and on their value in the diagnosis of parity, 318; twins, with placenta prævia, 363

Wilson, Dr. D., specimen of abnormal heart and vessels of a child, 101

Wiltshire, Dr., the asymmetry of the fœtal head, 36; the blue eyes of newborn children, 36; specimen of pyæmic arthritis as the result of congenital syphilis, 94; specimen of dicephalous monster, 235

"Women, a Clinical History of the medical and Surgical Diseases of," by Dr. R. Barnes, review, 563; the spaying

of, by Dr. Aveling, 617

YOUNG, Dr. D., case of abortion at three and a-half months, in which the placenta was probably retained, 24

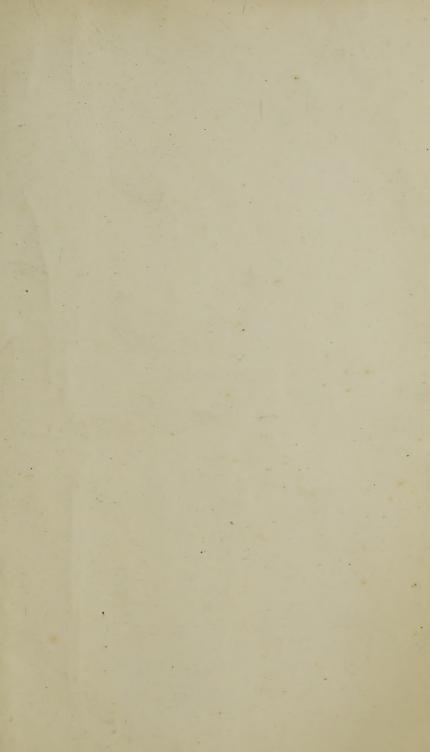
Young, Dr. James, notes on occlusion of the vagina, 101; arm over head presentation, with prolapse of funis, 640; specimen of polycotyledonary placenta,

Ygovin, Dr., spontaneous expulsion of a

large fibroid tumour, 197



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